



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

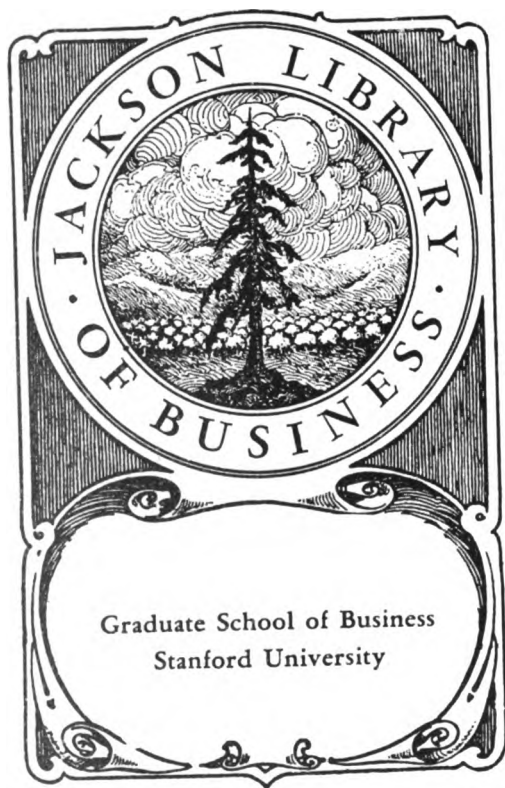
We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

2 05 0332 7828



QU

PUT

KRAU

THE
QUARTERLY JOURNAL
OF
ECONOMICS

VOLUME XXIX

CAMBRIDGE, MASS., U.S.A.
PUBLISHED BY THE HARVARD UNIVERSITY PRESS
1915

Reprinted with permission of the publishers by
KRAUS REPRINT CORPORATION, NEW YORK 17, N.Y.
1961

**COPYRIGHT, 1914-15, BY THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE
PRINTED IN THE UNITED STATES OF AMERICA**

CONTENTS FOR VOLUME XXIX

WRITERS	PAGE
ADRIANCE, W. M. Specific Productivity	149
ANDERSON, B. M., Jr. The Concept of Value Further Considered	674
BAUER, J. Depreciation and Rate Control: A Question of Justice.	
<i>Note</i>	651
BENDIX, L. Germany's Financial Mobilization	724
BOGGS, T. H. Capital Investments and Trade Balances within the British Empire	768
CLARK, J. M. Hobson's Work and Wealth. <i>Review</i>	177
— The Concept of Value	633
— A Rejoinder	709
COOKE, T. Deposit Guaranty in Mississippi. <i>Note</i>	419
COPELAND, M. T. Statistical Indices of Business Conditions	522
DAVIS, J. S. Depreciation and Rate Control:	
A Criticism	362
A Rejoinder	388
DAY, C. The Economic Synthesis. <i>Review</i>	401
DICKINSON, Z. C. State Guaranty of Bank Deposits in Nebraska.	
<i>Note</i>	187
DURAND, E. D. The Trust Legislation of 1914	72
ENGLAND, M. T. Promotion as the Cause of Crises	748
FIEBER, W. C. Marconcini's L'Industria Domestica Salarista.	
<i>Review</i>	410
HAIG, R. M. The Effects of Increment Taxes upon Building Operations. <i>Note</i>	829
HAMMOND, M. B. Wages Boards in Australia:	
I. Victoria	98
II. Boards Outside Victoria	326
III. Organisation and Procedure	339
IV. Social and Economic Results of Wages Boards	563
HARING, C. H. American Gold and Silver Production in the First Half of the Sixteenth Century	433
Appendix: Monetary Values in Spanish America	475
HEILMAN, R. E. Two Rate Decisions of Importance. <i>Note</i>	840
KEYNES, J. M. The City of London and the Bank of England, August, 1914	48
LIEFMANN, R. Monopoly or Competition as the Basis of a Gov- ernment Trust Policy	308
LOCKHART, O. C. Recent Developments in Taxation in Ohio	480
LORIA, A. The Economic Synthesis: A Reply. <i>Note</i>	647
MITCHELL, W. C. Human Behavior and Economics: A Survey of Recent Literature	1
PERSONS, C. E. Women's Work and Wages in the United States	201
SPRAGUE, O. M. W. The War and the Financial Situation in the United States. <i>Note</i>	181
SWATZE, F. J. Ely's Property and Contract. <i>Review</i>	820
TAUSSIG, F. W. Lincoln and the Tariff: A Sequel. <i>Note</i>	426
— Two Biographies of Inventors: Dickinson's Life of Fulton and Morse's Letters of Morse. <i>Review</i>	642
THOMPSON, C. B. Scientific Management in Practice	262
TOSDAL, H. R. The Tobacco Industry since the Dissolution of the Trust. <i>Note</i>	848
TUCKER, R. S. The British Taxes on Land Values in Practice	794
WRIGHT, P. G. The Contest in Congress between Organized Labor and Organized Business	235
— Moore's Economic Cycles. <i>Review</i>	631
YOUNG, A. A. Depreciation and Rate Control:	
A Reply	378
Concluding Comments	395

SUBJECTS

	PAGE
American Gold and Silver Production in the First Half of the Sixteenth Century. By C. H. Haring	433
Appendix: Monetary Values in Spanish America	475
Bank of England, August, 1914, The City of London and the. By J. M. Keynes	48
British Taxes on Land Values in Practice, The. By R. S. Tucker	794
Business Conditions, Statistical Indices of. By M. T. Copeland	522
Capital Investments and Trade Balances within the British Empire. By T. H. Boggs	768
Deposit Guaranty in Mississippi. <i>Note.</i> By T. Cooke	419
Depreciation and Rate Control: A Question of Justice. <i>Note.</i> By J. Bauer	651
Depreciation and Rate Control. By J. S. Davis.	
A Criticism	362
A Rejoinder	388
Depreciation and Rate Control. By A. A. Young.	
A Reply	378
Concluding Comments	395
Dickinson's Life of Fulton. <i>Review.</i> By F. W. Taussig	642
Economic Synthesis, The. <i>Review.</i> By C. Day	401
Economic Synthesis, The: A Reply. <i>Note.</i> By A. Loria	647
Ely's Property and Contract. <i>Review.</i> By F. J. Swayze	820
Germany's Financial Mobilisation. By L. Bendix	724
Hobson's Work and Wealth. <i>Review.</i> By J. M. Clark	177
Human Behavior and Economics: A Survey of Recent Literature. By W. C. Mitchell	1
Increment Taxes, Effects of, upon Building Operations. <i>Note.</i> By R. M. Haig	829
Lincoln and the Tariff: A Sequel. <i>Note.</i> By F. W. Taussig	426
Marconcini's <i>L'Industria Domestica Salarata.</i> <i>Review.</i> By W. C. Fisher	410
Monopoly or Competition as the Basis of a Government Trust Policy. By R. Liefmann	308
Moore's Economic Cycles. <i>Review.</i> By P. G. Wright	631
Morse's Letters of Morse. <i>Review.</i> By F. W. Taussig	642
Organized Labor and Organized Business, The Contest in Congress between. By P. G. Wright	235
Promotion as the Cause of Crises. By M. T. England	748
Rate Decisions, Two, of Importance. <i>Note.</i> By R. E. Heilman	840
Scientific Management in Practice. By C. B. Thompson	262
Specific Productivity. By W. M. Adriance	149
State Guaranty of Bank Deposits in Nebraska. <i>Note.</i> By Z. C. Dickinson	187
Taxation in Ohio, Recent Developments in. By O. C. Lockhart	480
Tobacco Industry since the Dissolution of the Trust. <i>Note.</i> By H. R. Toedal	848
Trust Legislation of 1914, The. By E. D. Durand	72
Value, The Concept of. By J. M. Clark	663
Value, The Concept of, Further Considered. By B. M. Anderson, Jr.	674
Value, The Concept of: A Rejoinder. By J. M. Clark	709
Wages Boards in Australia. By M. B. Hammond.	
I. Victoria	98
II. Boards Outside Victoria	328
III. Organization and Procedure	339
IV. Social and Economic Results of Wages Boards	563
War, The, and the Financial Situation in the United States. <i>Note.</i> By O. M. W. Sprague	181
Women's Work and Wages in the United States. By C. E. Persons	201

THE
QUARTERLY JOURNAL
OF
ECONOMICS

NOVEMBER, 1914

HUMAN BEHAVIOR AND ECONOMICS: A
SURVEY OF RECENT LITERATURE

SUMMARY

Introduction: psychology and economics, 1. — I. Parmelee, *Science of Human Behavior*, 3. — II. Thorndike, *The Original Nature of Man*, 6. — III. Wallas, *The Great Society*, 12. — IV. Veblen, *The Instinct of Workmanship*, 19. — V. Sombart, *Der Bourgeois*, 29. — VI. Lippmann, *A Preface to Politics*, 37. — VII. Walling, *Progressivism and After*, 41. — VIII. Conclusion, 46.

A SLIGHT but significant change seems to be taking place in the attitude of economic theorists toward psychology. Most of the older writers made no overt reference to psychology, but tacitly imputed to the men whose behavior they were analyzing certain traits consistent with common sense and convenient as a basis for theorizing. By recent writers, on the contrary, non-intercourse with psychology, long practised in silence, is explicitly proclaimed to be the proper policy.

This definite pronouncement has arisen from a somewhat tardy recognition that hedonism is unsound psychology, and that the economics of both Ricardo and Jevons originally rested on hedonistic preconceptions. Since hedonism is unsound, either we must admit that both the classical and the marginal analysis

is invalid, or we must argue that the hedonistic pre-conceptions can be given up without compromising the validity of the analysis. The latter horn of the dilemma is chosen. Then we must choose again between providing a sounder psychological basis for our analysis, and holding that its psychological basis does not concern the economist. Again, the latter course is generally preferred. Thus, economic theory is said to rest upon the simple facts of preference or choice, and the psychological explanation of these preferences or choices is said to be a matter of indifference to our science. I have come across passages of this tenor in the recent writings of Professors Wicksteed, Chapman, Pareto, Schumpeter, Čuhel, and Davenport.¹ Probably a search made for the purpose would discover other cases.

Now, if economic theory really has no concern with psychology, perhaps a survey of recent literature upon human nature is out of place in this Journal. But that is not a necessary conclusion. For when economic theory has been purified so far that human nature has no place in it, economists become interested perforce in much that lies outside their theoretical field. Further, it is possible that the effort to keep the study of human nature out of economic theory may break down. The admitted deficiencies of hedonism may stimulate future economists, not to disavow all psychological analysis, but to look for sound psychological analysis. It may

¹ P. H. Wicksteed, *The Common Sense of Political Economy* (1910), pp. 33, 36, 169, 435; S. J. Chapman, *Political Economy* (Home University Library), 1912, pp. 34, 35; also *Outlines of Political Economy*, 1911, pp. 24-26; J. Schumpeter, *Wesen und Hauptinhalt der theoretischen Nationalökonomie*, 1908, pp. 64, 73, 542-544; Čuhel, *Lehre von den Bedürfnissen*, 1907, pp. 56-61; H. J. Davenport, *Economics of Enterprise*, 1913, pp. 99-101. Pareto's position is substantially similar, since he bases his theory of equilibrium on curves of indifference, and treats these curves as factual data. See his *Mannet*, *d'Économie politique*, 1909, p. 169 n. Böhm-Bawerk thinks that Čuhel and Schumpeter draw too sharp a line between economics and psychology; but he tries to clear his own skirts of hedonism. See his *Positive Theorie des Kapitals*, *Zweiter Halbband*, 3d ed., 1912, pp. 310-330.

even be that economists will find themselves not only borrowing from but also contributing to psychology. For if that science is ever to give a competent account of human behavior it seems necessary that economists should do a part of the work. Human nature is in large measure a social product, and among the social activities that shape it the most fundamental is the particular set of activities with which economists deal.

Those economists who are loath to abandon psychological inquiry may well feel encouraged by the vigor with which the study of human nature is now being prosecuted. Physiologists, neurologists, psychologists, ethnologists, sociologists, political scientists, economic historians, even a few economic theorists, are not only working at the problem from their several viewpoints, but also endeavoring to pool their contributions. Whether the results of such work can be incorporated into economic theory with good effect, and whether economists have contributions of their own to make to the study of human nature, are questions of great import. Nothing which we are doing ourselves along traditional lines concerns us more than these many-sided investigations of human behavior.

I

Professor Parmelee¹ plans "a series of works" dealing "with the evolution of human culture and of human nature." His present volume provides the basis for this series by assembling the results of recent investigations bearing upon the evolution of behavior. Starting with the physico-chemical peculiarities of organic matter, he reviews the leading theories con-

¹ *The Science of Human Behavior, Biological and Physiological Foundations.* By Maurice Parmelee, New York, The Macmillan Company, 1913, 8°, pp. xvii + 443.

cerning the origin of species, the behavior of the lower animals, the evolution and functions of the nervous system, the rise of instincts and intelligence, and finally, the beginnings of social evolution among insects, vertebrates, and men.

Now the road from physical-chemistry to sociology is long and many are the scientific fields that must be traversed in passing from one to the other. No single man is a competent guide across all the subdivisions of biology, physiology, and psychology. Yet we may be glad that Mr. Parmelee has the courage of a sociologist rather than the caution of a scholar. For to most students of the social sciences the hypotheses that human behavior has evolved from the simple reactions of unicellular organisms, and that the latter behavior is reducible to mechanistic terms, — to most students of the social sciences these hypotheses are as vague as they are seductive. An attempt to bring together the evidence bearing upon them serves at least to make them more definite, to show where they fit in among the other fragments of our knowledge, and to suggest possible bearings upon our proper problems. Besides this general interest, Mr. Parmelee's book has many diverting details: for example, the sections of scissors and paste which summarize the fascinating researches of Loeb into tropisms, which indicate why Jennings, in opposition to Loeb, imputes attention and choice even to the protozoa, which outline Sherrington's conception of the nervous system, W. M. Wheeler's studies of ant communities, and Espinas's speculations about the tendency of the family to obstruct the formation of large social groups.

For social psychology the most important part of Mr. Parmelee's book is his treatment of the relations between the four types of behavior — tropisms, reflexes,

instincts, and intelligence. He believes "that there is strict continuity between all these different forms of behavior and that the more complex forms are built up from and based upon the simpler" (p. 200). Tropisms are the reactions to external forces of animals without a nervous system. Reflexes are the reactions of effector organs to nervous stimuli, and therefore exist only in animals which have nervous systems. Instincts are inherited combinations of reflexes, and require integration by a central nervous system. "Intelligent behavior is . . . made up of tropic, reflex, and instinctive actions which have been combined in new ways as a result of experience so as to constitute new forms of behavior" (p. 258). It requires a central nervous system which "has developed parts which are not specialized at birth, so that they can serve as association areas" (p. 266). While the simpler "forms of behavior are inherited in the sense that animals are predetermined to manifest them when the appropriate stimuli are applied," intelligence "is determined by individual experience," tho of course "a structural form which is capable of benefiting by experience must be inherited if intelligent behavior is to make its appearance" (p. 423).

The neat symmetry of this scheme is marred somewhat by the necessity of introducing between instincts and intelligence certain "general innate tendencies." These tendencies differ from instincts in that they are not definite combinations of reflexes, but involve "at different times entirely different parts of the nervous system" (p. 296). On the other hand, they differ from intelligence in that they are innate, instead of based upon individual experience. Examples in point are the tendencies to imitate, to play, and to form habits.

The reader will see that Mr. Parmelee's discussion of human behavior is biological rather than psychological

in character. He finds the criteria by which to discriminate between the different types of activity, not in what the organism does, but in the anatomical structure of the nervous tissues involved. Interesting as this viewpoint undoubtedly is, important as are certain conclusions which it suggests, it still remains a matter of secondary interest to students of the social sciences. They are concerned less with the anatomical machinery by which activities are effected than with the characteristics of the activities themselves. Hence they will find more of practical interest in the following books, which subordinate the biological to the psychological viewpoint, than in Mr. Parmelee's volume.

II

To a generation striving with projects of social reform there is no problem of greater speculative interest or greater practical import than what is original in human nature. Logically, the issue between Godwin and Malthus, between the Philosophic Radicals and the Conservatives of Mill's day, between the Socialists and the "Stand Patters" of our own time, involves a difference of opinion how far and how fast man's nature can be made over. And, since we have come to discredit the inheritance of acquired characteristics, the possibility of reforming human nature turns largely on what part of that nature is inherited and hence presumably unchangeable, and what part is formed by experience and hence presumably capable of modification. Keen and widespread interest will be felt, therefore, in the effort of a distinguished psychologist to determine what is *The Original Nature of Man*.¹

¹ *The Original Nature of Man* (Educational Psychology, vol. 3). By Edward L. Thorndike. New York, Teachers' College, Columbia University, 1913. 8°, pp. xii + 357.

Like most modern writers, Professor Thorndike finds the basis of man's original nature in the connections formed before birth among his 11,000 millions of neurones. In behavior these connections manifest themselves as reflexes, instincts, and inborn capacities — terms which indicate merely progressive differences in the complexity of the situations which provoke action, in the complexity of the responses made to the situations, and in the plasticity of the bonds between situations and responses.

What distinguishes Mr. Thorndike's view is that he conceives the number of these preformed connections and consequently the number of man's unlearned tendencies to be very great. Darwin held that man has fewer instincts than any other animal. William James, on the contrary, believed that man has all the instinctive impulses that animals have and a great many more besides.¹ Thorndike, in turn, goes far beyond James in multiplying innate propensities. As he multiplies them, of course, he makes these propensities more limited in scope and more definite in character.

An illustration will give the best idea of Mr. Thorndike's method and results. James treated imitation as one of the most important instincts.² On it Tarde, Le Bon, and Ross based their "psychology of the crowd." Later writers like McDougall and Parmelee have denied that it is an instinct on the ground that it does not involve any *specific* reflexes or mode of behavior, but have admitted "a general innate tendency" to imitate.³ Now comes Thorndike with his detailed scrutiny of the evidence leading up to this conclusion:

The most probable cases for the production, by behavior witnessed, of similar behavior in the witness, are smiling when smiled at,

¹ *Principles of Psychology*, II, 393, 441. ² *Ibid.*, p. 408.

³ W. McDougall, *Social Psychology*, pp. 102-107; M. Parmelee, *Science of Human Behavior*, pp. 241, 246, 247.

laughing when others laugh, yelling when others yell, looking at what others observe, listening when others listen, running with or after people who are running in the same direction, running from the focus from which others scatter, jabbering when others jabber, and becoming silent as they become silent, crouching when others crouch, chasing, attacking and rending what others hunt, and seizing whatever object another seizes.

In my opinion these probabilities are all, or nearly all, real, and are the chief, or even the only components of the imitative tendency which shows itself in large masses of men, and produces panics, and orgies, and frenzies of violence, and which only the rarest individuals can actively withstand.¹

In other words: "Man has a few specialized original tendencies whose responses are for him to do what the man forming the situation does. His other tendencies to imitate are habits learned no-wise differently from other habits."²

This process of resolving the commonly recognized instincts into their constituent elements is carried out in much detail. The aim is to define each situation, each response, and each connection with such precision that every unlearned tendency may be identified with complete assurance by different investigators. Gradually enough material may be collected to make sure just what forms of behavior are original and just what forms are acquired. Mr. Thorndike's own work is professedly only a beginning in this line of endeavor: it does not give a complete inventory of unlearned tendencies, but it does give an illuminating conception of the character of these tendencies and of the scientific method of studying them.

To economists what Mr. Thorndike has to say about the relations between innate capacities and intelligence is even more important than what he has to say about these capacities themselves. The ultimate source of all values he finds in "the original satisfyingness of some states of affairs and annoyingness of others." But he

¹ *The Original Nature of Man*, pp. 120, 121.

² *Ibid.*, p. 122.

points out that "To satisfy is not the same as to give sensory pleasure and to annoy is not the same as to give pain." His generalizations concerning original tendencies to be satisfied or annoyed, concerning instinctive likes or dislikes, are summed up in "three laws of readiness and unreadiness." Briefly put, these laws are that "conduction by units in readiness is satisfying, while conduction by units in unreadiness, and readiness without conduction are annoying." One group of satisfiers and annoyers is given special prominence by Mr. Thorndike and deserves special consideration by economists. Man has an innate tendency "to general mental activity and to general physical activity (tho they are not as a matter of fact absolutely general)." The exercise of these tendencies satisfies, the denial of exercise annoys (pp. 122-133).

Now the original tendencies with which man is born have certain original tendencies of their own. One such tendency is to produce what we call consciousness. A second is to increase the strength of connections between situations and responses by use and to diminish this strength by disuse — the "Law of Exercise." A third is to increase the strength of connections when the response is accompanied or followed by a satisfying state of affairs and to diminish the strength of connections in the opposite case — the "Law of Effect" (pp. 170-172).¹ "These tendencies for connections to grow strong by exercise and satisfying consequences, and to grow weak by disuse and annoying consequences" are "the features of man's original equipment whereby all the rest of that equipment is modified for use in a complex civilized world": "the effective original forces in what has variously been called nur-

¹ Mr. Thorndike insists that this law of effect is primary, and not reducible to the law of exercise (p. 193).

ture, training, learning by experience, or intelligence " (p. 173).

Intelligence and instinct, then, are " of the same flesh and blood " (p. 310). For when man's unlearned capacities play out their game under favorable conditions they lead to reflection and to self-judgment, just as truly as they lead to the begetting and nursing of children. Acquired nature is generated from original nature " and combines back with it to form new hybrids " (p. 198). Our passionate religions, our industrial arts, and our pure sciences are all evolved from our innate propensities as much as is our habit of walking.

On this view human nature is highly plastic. Not plastic, as James Mill would have explained, because the mind is " under the governance of two sovereign masters " and may have the most diverse pleasure-pain associations established within it by appropriate training; but plastic because of the great number of its original propensities and of the vastly greater number of combinations among these propensities which may be formed by experience (p. 305). Practically every activity of mature life is directed not by any single instinct (Mr. Thorndike's unlearned tendencies are resolved into elements too specific for that); but by some combination among several or many original capacities, modified little or modified greatly by experience. As early as " the first half-year or less, original nature and nurture coöperate almost inextricably " (p. 40). Among adults, " Much, perhaps nine-tenths of what commonly passes for distinctively human nature is . . . not in man originally, but is put there by institutions or grows there by the interaction of the world of natural forces and the capacity to learn " (p. 199).

This view of human nature affords a firm psychological basis for optimism concerning the possibilities of social progress. Man has, indeed, no innate "moral sense" to lead him upward, no unlearned difference of response to right and wrong, no religious instinct (p. 202). Nor is man's original equipment adapted to the higher life; on the contrary it is "archaic, adapting the human animal for the life that might be led by a family group of wild men in the woods" (p. 280). Nor is this original equipment improving. It might be bettered, indeed, within certain limits by careful breeding (p. 244); but "original nature springs from original nature" (p. 235), and as matters stand, we have small warrant for thinking that human advance is due to growth of our unlearned capacities (pp. 240-243). What can be changed is nurture. Nurture cannot indeed eradicate unlearned capacities, it cannot supply them; but it can select certain among them for development and others for repression; it can make the most various combinations among them as well as modify their forms. The more numerous, the more diverse, the more specific research makes these original elements in human nature, the more powerful is the role it ascribes to the nurture, which selects, combines, and modifies them. Most important of all, the influence of nurture may be cumulative. Every increase of social wisdom may be applied in bettering the nurture given to the generation that follows, so that this generation in turn may give its successor training better than it received.

III

Mr. Graham Wallas's *The Great Society*¹ has a wider scope than its predecessor, *Human Nature in Politics*. While the latter dealt with the conflict between the abstract theory of representative government and the psychology of practical politics, the former offers a psychological "analysis of the general social organization of a large modern state." A further difference is that the earlier book "turned into an argument against nineteenth-century intellectualism," while the present book turns "at times into an argument against certain forms of twentieth-century anti-intellectualism" (p. v). But the two volumes have much in common. Both have the practical aim of bringing "the knowledge which has been accumulated by psychologists into touch with the actual problems of present civilized life" (p. 20). Both reveal intimate acquaintance with politics, with public administration, with social conditions, and best of all with individual men. Both reveal also a wide knowledge of technical and general literature. To this learning there is joined in both keen analysis, independent judgment, and a strong constructive bent. Finally, both books are written with a charm nourished by the classics, and both sparkle with vitality.

In matters of method, Mr. Wallas's chief contribution is a deliberate effort to base his psychological analysis upon the "complex dispositions." He holds that "for that preliminary view of his subject matter, which he will carry half-consciously in his mind and use for his wider speculations, the social psychologist will . . . be wise to explain human conduct rather by the complex

¹ *The Great Society. A Psychological Analysis.* By Graham Wallas. New York, The Macmillan Company, 1914. 8", pp. xii + 394.

dispositions, which are the Greatest Common Measures of human nature, than by the elementary dispositions, which are its Least Common Measures " (p. 29).

What, then, are these complex dispositions? Man "inherits a nature . . . containing many thousands of dispositions which incline him to react in various ways to appropriate stimuli. Many of these dispositions should be left rather to anatomy and physiology than to psychology. The psychological dispositions may be divided roughly into comparatively simple facts like the senses, memory, fatigue, etc., and the more complex facts of Instinct and Intelligence" (p. 56). Human nature means the sum-total of the human dispositions (p. 22). The advantage of using this term is that it enables "the social psychologist to project . . . all his facts on to one terminological plane" (p. 23). Ordinary language makes it difficult to combine and compare sensations (like pain), processes (like thinking), and emotions (like anger). But combination and comparison become easy when we speak simply of the three *dispositions* to feel pain, to reason, and to become angry.

So far Mr. Wallas's "dispositions" seem to coincide with Mr. Thorndike's "capacities." But there is an important difference between the concepts of human nature developed by these two men. Mr. Wallas proposes to use "disposition" and "nature" "so as to exclude the acquired elements." On this view a man's nature, or any one of his dispositions, becomes "an imaginary point, from which the effects of experience are assumed to start" (p. 23).

Now this proposal, at least when made with reference to the complex dispositions, seems to me to involve a serious error. How can patriotism, or ambition, which Mr. Wallas cites as among "the facts of human nature

which are of greatest importance to the social psychologist" (p. 32), be regarded as dispositions free from acquired elements? Indeed, can any complex disposition consist wholly of unlearned elements? Mr. Wallas himself says that "dispositions which seem, when considered by themselves, to be homogeneous, are found, when examined in relation to their stimuli, to consist of many independently varying tendencies" (p. 60). Is the combination among these original tendencies itself original? If Thorndike is right, we must say no. A man's action in going upstairs to get boracic powder to put on his burnt finger may, as Mr. Wallas says, "be treated either as the result of many elementary dispositions to perceive, to remember, to decide, etc.; or as the result of a single complex disposition to search, with the help both of the senses and the memory, for means of relieving pain" (p. 28). But certainly when it is treated in the latter way "disposition" is not used "so as to exclude . . . acquired elements."

Mr. Wallas would meet this criticism, I think, by urging that while in all behavior controlled by complex dispositions numerous acquired elements are conspicuous (pp. 23, 38, 45 note, 65, etc.), he is abstracting from these acquired elements and dealing with the naked propensities which remain. What we fear, love, and acquire depends upon the material provided by our several experiences, and our propensities in these directions are themselves modified in the course of exercise; but none the less we get these propensities by inheritance, not from experience, and upon finding appropriate stimuli for their exercise much of our happiness depends. Tried by Mr. Thorndike's searching analysis, however, the residuum of truth in this answer would be small. Apart from all experience, we do tend to fear,

to love, and to acquire certain particular things under certain particular circumstances; but what these particular things and particular circumstances are is not perfectly known. The fears, the loves, the acquisitiveness which *are* great social forces, which really *do* concern the social psychologist, are not these naked original propensities; but these propensities made over and standardized by contact from the days of our births with other people, who got their dispositions in question by a similar indissoluble fusion of nature and nurture at the hands of their predecessors.

The issue involved here is not, I think, purely verbal. Every one who does not consider, indeed every one who does not emphasize the fact that the human nature of each generation of men is determined chiefly by its nurture at the hands of the preceding generation misses the most potent single factor in social psychology. "Man is born," says Mr. Wallas, "with a set of dispositions related, clumsily enough but still intelligibly, to the world of tropical or sub-tropical wood and cave which he inhabited during millions of years of slow evolution, and whose main characteristics changed little over vast periods of time" (p. 64). If that were the full story of the human nature with which we become citizens of the Great Society, our plight would be bad indeed. But it is not the full story. Perhaps we have no original capacities which the cave man had not; but before we start in school, still more before we begin to earn our livings and to vote, our numberless unlearned capacities have grown into certain more or less stereotyped combinations utterly different from the combinations of the cave man. It still remains true that "neither our instinctive nor our intelligent dispositions [even as thus made over] find it easy to discover their most useful stimuli" in the Great Society

(p. 65). But happily the disharmony is not that between the original instincts of cave men and the requirements of civilization. It is the disharmony between the requirements of the Great Society and a human nature composed of cave man elements combined with one another in definite forms derived from generations of farmers, handicraftsmen, and petty shopkeepers.

Did Mr. Wallas adhere strictly to his proposal of treating complex dispositions as free from all acquired elements his analysis would contribute little to our understanding of present social problems. Happily he forgets his proposal almost as soon as he makes it, and proceeds to analyze the complex dispositions of greatest social import in the forms in which they manifest themselves today.

A particularly admirable feature of this analysis is the treatment of the relations between Instinct and Intelligence (chapter III). McDougall in his *Social Psychology* (p. 44) advanced the view that intelligence is but a complex apparatus for finding ways and means toward the ends which are set by instinct. Mr. Wallas, on the contrary, holds "that we are born with a tendency, under appropriate conditions, to think, which is as original and independent as our tendency, under appropriate conditions, to run away" (p. 43). Here, of course, Mr. Wallas and Mr. Thorndike are at one.

There follows a series of chapters (V to IX) discussing the efforts to establish a system of social psychology upon the basis of a single disposition, or of two or three dispositions at the most. The leading doctrines treated are the habit philosophy of Sir Henry Maine and others, the fear philosophy of Hobbes, the pleasure-pain philosophy of Bentham, the psychology of the crowd based upon imitation, sympathy and suggestion by Bagehot, Tarde and their disciples, the social psychology of love

offered by Comte and less definitely by later writers, and finally, the doctrine of ineradicable national hatred proclaimed by contemporary militarists. Nowhere else in anything like the same compass can be found so fair and so pregnant an account of efforts to discover the psychological principles by which social behavior is determined. Of especial interest to economists is the remarkably fresh treatment of Bentham's hedonism.

The result of this review is "to prove that as the scale of social organization extends, the merely instinctive guidance of Fear, or Love, or Pleasure, or Habit, becomes more and more unsafe; and that not only is a clearer consciousness of his actions and a stronger habit of forecasting their results needed by the ordinary man, but also that Thought in the great sense, the long-continued concentration of the professed Thinker in which new knowledge is made available for the guidance of human life, is required as it has never been required before" (p. 191).

Hence the great practical issue for modern society is whether our thinking about social problems can be made more effective. Mr. Wallas accepts the evidence of psychologists that we cannot control the movement of thought; but he contends that we can control the material circumstances necessary for thought, the mental attitudes which are favorable to thought, and our relations to the subject matter of thought. These relations include, besides logic in the narrow sense, our use of memory and record, and our standardizing of the facts about which we think by the use of money values, commercial grading of commodities, and the like. Keen and wise as is the discussion, its chief service is to define "the dominant intellectual problem of the Great Society." This problem "may be summed up in the statement that he who thinks about the civilized world

is now compelled either to standardize it in shifting Memory and abstract Record, and so think erroneously about it, or to attempt to standardize it in fact, and so, perhaps, destroy the only conditions of life in which man is fitted to find the satisfaction of his nature " (p. 222). About the practical solution of this problem Mr. Wallas is inclined to be optimistic, on the ground that " both the development of more delicate logical methods and the accumulation of recorded observations are, in fact, now making deliberate Thought about mankind less inexact and misleading than at any other point in history " (p. 240).

Having examined the " facts of human psychology with the purpose of discovering how they can be adapted to the needs of the Great Society " in Part I of his book, Mr. Wallas proceeds in Part II to " examine existing forms of organization in the Great Society with the purpose of discovering how far they can be improved by a closer adaptation to the facts of human psychology " (p. 249). Into this field I shall not follow him, because his task here is less to develop than to apply social psychology. Suffice it to say that the discussion concerns a number of burning current issues: the efficiency of government by parliament, cabinet, and civil service; the relations between business managers and shareholders; individualism, socialism, and syndicalism; the effect of " scientific management " upon the happiness of workers; women's suffrage, and the balance between liberty and compulsion most conducive to social welfare. Any one who doubts the helpfulness of looking at such issues from the psychological viewpoint will be rapidly converted to faith if he will entrust himself for a few hours to Mr. Wallas' wise leading.

IV

In an article published in the *American Journal of Sociology* in September, 1898, Professor Veblen introduced into psychological discussion a new instinct, which he christened the instinct of workmanship. Both Mr. Parmelee and Mr. Thorndike discuss this article, but doubt the genuineness of the alleged instinct. The former, misinterpreting it as simply "the tendency to work," decides that it is "very far from being a distinct instinct," because it "is very complex in its character and causes."¹ Mr. Thorndike likewise holds that this propensity as "the gifted economist Veblen" defines it, is "a complex of several sets of original connections and of their guidance by material and human surroundings."² But while thus breaking the alleged instinct up into several original elements, he pronounces that, "Such a tendency surely comes to exist in very many men under the ordinary circumstances of life, and may properly be used in economics as a postulate."³

Thus Mr. Veblen's long-awaited volume upon *The Instinct of Workmanship*⁴ encounters the preliminary objection that its very title in a misnomer and its fundamental thesis is an error. But Mr. Veblen is prepared for such criticism. He admits that the concept of instinct has disintegrated in the biological sciences since these sciences have begun a search for the irreducible

¹ *The Science of Human Behavior*, p. 252.

² Chief among the original connections he mentions the tendencies to multiform physical and mental activity, the satisfyingness of mental control and of human approval, and the annoyance we feel at being thwarted and at being the object of human contempt. Among the environmental guiding factors he mentions, "objects to be duplicated, ends to be gained, and the human customs of approving certain products of intellect or skill and condemning others."

³ *The Original Nature of Man*, pp. 143, 144.

⁴ *The Instinct of Workmanship and the State of the Industrial Arts*. By Thorstein Veblen. New York, The Macmillan Company, 1914. 8°, pp. ix + 355.

elements that go to make up behavior. By a brilliant anticipation of Mr. Thorndike's results, he points out that the concept would disintegrate in psychology also, if it undertook a similarly searching analysis of the mental elements in human activity. But his own task is neither biological investigation nor exhaustive psychological analysis: it is "inquiry into the nature and causes of the growth of institutions." For certain factors of unquestioned importance in this process of institutional growth, he thinks that "no better designation than the time-worn 'instinct' is available" (pp. 1-3).

What then are instincts as factors in the evolution of culture? Mr. Veblen describes them as "innate and persistent propensities of human nature," constituted by the "composite functional groups" into which the "simple and irreducible psychological elements of human nature fall." For their peculiar purposes the social sciences are warranted in handling these clusters of quasi-tropismatic impulses as themselves "irreducible traits of human nature." For, "it is in the particular grouping and concatenation of these ultimate psychological elements into characteristic lines of interest and propensity that the nature of man is finally to be distinguished from that of the lower animals" (p. 3).

Mr. Veblen's concept of instincts, then, as "composite functional groups" into which the "simple and irreducible elements of human nature fall" seems to be nearly identical with Mr. Wallas's concept of "complex dispositions." And like Mr. Wallas, but unlike Mr. Thorndike and Mr. Parmelee, he lays stress upon the functioning rather than upon the structure of instincts. Moreover the functioning which concerns him is not the early manifestation of instincts in the life of the individual, but the mature role which instincts play in social

life. When studied from this viewpoint, each instinct is found to propose "an objective end of endeavor"; and it is by this "purpose to which it drives" that we identify a given instinct and distinguish it from its brethren. That is, "Instinctive action is teleological, consciously so" (pp. 3, 4). Hence "all instinctive action is intelligent in some degree. That is what marks it off from the tropisms and takes it out of the category of automatism" (p. 31). "When instinct enjoins little else than the end of endeavor, leaving the sequence of acts by which this end is to be approached somewhat a matter of open alternatives, the share of reflection, discretion, and deliberate adaptation will be correspondingly large" (p. 38). In short "for present use, [instinct] denotes the conscious pursuit of an objective end which the instinct in question makes worth while" (p. 5).

Now instincts as they function "in the give and take of cultural growth," which is Veblen's business, differ from instincts as parts of the original nature of man, which is Thorndike's business, and from instincts as a feature in the evolution of the nervous system, which is Parmelee's business. It is confusing to have the same term used to cover these three concepts, because statements which hold true of one concept become false when another concept is considered. For example, Mr. Thorndike protests vigorously against teleological interpretations of instinct (p. 15); for, by original nature, it seems clear that the individual does not at first appreciate the ends of his muscular responses to stimulating situations. But it seems equally clear that in the course of experience man does find out what his ends are, so that, as factors in social life, the instincts become consciously teleological, as Veblen says they are. Again, as preformed connections between certain

neurones the instincts are doubtless highly specific, as Mr. Parmelee holds; but in the course of experience so many new connections are formed among the neurones that the common run of instincts lose their putative sharpness of outline and take on that "vagueness or generality" which Veblen, the student of culture, finds characteristic of them (p. 13). Thus, by taking considerable pains to remember just what concept each of our three writers has in mind, the reader can reconcile their seemingly inconsistent statements. As future discussions increase our knowledge of these entities, we shall probably agree upon appropriate terms for discriminating among them. Mr. Wallas's adoption of the term "complex dispositions" is a step in this direction. But, as matters stand, we can scarcely chide Mr. Veblen for not entitling his book "The Complex Disposition of Workmanship."

There is one point, however, at which we may fairly ask Mr. Veblen to modify his language. Just as Mr. Wallas seems mistaken in saying that complex dispositions (in his usage) are free from acquired elements, so Mr. Veblen seems mistaken in saying that instincts (in his usage) are "hereditary traits." In making this statement I suspect that he has momentarily reverted from his own meaning of instinct to Mr. Thorndike's meaning. As parts of the original nature of man, instincts are inherited; but instincts "as they take effect in the give and take of cultural growth" have important acquired elements in addition to the elements which are inherited. Perhaps Mr. Veblen's explanatory clause, that instincts are inherited "as spiritual traits *emerging from* a certain concurrence of physiological unit characters" is a sufficient defense against this criticism. But Mr. Veblen would surely admit that certain characteristics of instincts on which he

lays stress — their *consciously* teleological quality, their infusion by intelligence — emerge from experience. Doubtless, these characteristics could never appear unless the capacity to develop them were inherited; but the same remark holds true of every acquisition of man — for example, his knowledge of this year's fashions. Mr. Veblen's statement as it stands contains, as he remarks in a different connection, "rather a modicum of truth than an inclusive presentation of the facts relevant to the case" (p. 115).

Human nature to Mr. Veblen, then, is essentially "the complement of instinctive dispositions." This complement fluctuates widely from one individual to another, and these fluctuations are particularly marked among such hybrids as are practically all individuals among the peoples of the Western culture. "Yet, even through these hybrid populations there runs a generically human type of spiritual endowment, prevalent as a general average of human nature" (p. 15). And this "typical human endowment of instincts" is conceived to have "been transmitted intact from the beginning of humanity, . . . except so far as subsequent mutations have given rise to new racial stocks" (p. 18). Such differences of racial endowment are not considerable, but "a slight bias of this kind, distinctive of any given race, may come to have decisive weight when it works out cumulatively through a system of institutions . . ." (p. 24).

Among all the instincts with which man is endowed, Mr. Veblen ascribes the highest survival value to the instinct of workmanship. For the primary factor in deciding which shall survive among competing racial stocks is "their relative fitness to meet the material requisites of life" (p. 17). And "chief among those instinctive dispositions that conduce directly to the

material well-being of the race . . . is perhaps the instinctive . . . sense of workmanship." Its primacy is disputed only by the closely-related "parental bent" (p. 25).

The instinct of workmanship is "an animus for economy and efficiency" (p. 27). "Efficient use of the means at hand and adequate management of the resources available for the purposes of life is itself an end of endeavor, and accomplishment of this kind is a source of gratification" (pp. 31, 32). This instinct is peculiar in that it is an auxiliary to all the other instincts, rather than an independent force. "The generality of instinctive dispositions prompt simply to the direct and unambiguous attainment of their specific ends" (p. 32). But the functional content of the instinct of workmanship "is serviceability for the ends of life," and these ends are "at least in the main, appointed and made worth while by the various other instinctive dispositions" (p. 31). "The best . . . outcome of this disposition is not had under stress of great excitement or under extreme urgency from any of the instinctive propensities . . . whose ends it serves" (p. 33). It does "not commonly run to passionate excess," and "yields ground somewhat readily" when brought into competition with "more elemental instinctive propensities" (p. 34). It is also readily bent in various directions, according "as one or another of the instinctive dispositions is predominant in the community's scheme of life" (p. 35). "The grave importance that attaches to it is a matter of its ubiquitous subservience to the ends of life, and not a matter of vehemence" (p. 34).

As the instincts constitute the first great factor in culture, so modifications of instinctive behavior through intelligence and habits constitute the second. The secondary in origin, these modifications attain decisive

importance because they are cumulative. They are passed on from generation to generation and each acquired element may become the basis of new acquisitions. Of this nature are usages, customs, conventions, preconceptions, canons of conduct, bodies of knowledge including the customary scheme of technology upon which workmanship proceeds (pp. 6, 7, 38, 39).

Now the great problems of cultural history arise from the fact that while "the typical human endowment of instincts" changes but little, "the habitual elements of human life change unremittingly and cumulatively" (p. 18). Conflicts are thus frequently produced between the stable instincts and the evolving institutions. When institutional changes affect materially the ways and means by which a race gets its living, the crucial question arises whether its instincts will enable it to employ the new means and to live under the new institutions which its own progress has created (p. 35). There is, of course, no possibility of solving such a problem by changing the instincts. The only way to restore harmony is to readjust the scheme of institutions. The possibility of making such readjustments is primarily determined by the driving force among the people in question of those instincts which make for material welfare — above all the sense of workmanship and the parental bent — and the resisting force of institutional bonds. ". . . History records," says Mr. Veblen, "more frequent and more spectacular instances of the triumph of imbecile institutions over life and culture than of peoples who have by force of instinctive insight saved themselves alive out of a desperately precarious institutional situation, such, for instance, as now faces the peoples of Christendom" (p. 25).

With these elements in cultural development in mind, Mr. Veblen proceeds to sketch the role played by

the instinct of workmanship from the stone age to the twentieth century.

The slow advance of technology among savage peoples he ascribes in part to the customary rule of the elders and the associated habits of mind which establish a degree of tabu upon innovation. But more obstructive still is "the self-contamination of the sense of workmanship" (p. 52). Animism in its origin is "the naïve imputation of a workmanlike propensity in the observed facts." Now such an imputation is radically misleading in attempts to work inorganic matter, but much less so in dealings with plants and animals. Hence the savage makes vastly better progress with agriculture and domesticating animals than with stone-working and the like. This keen suggestion Mr. Veblen supports by an impressive body of evidence. Even the one conspicuous case which seems to count against his thesis — the skill of the Eskimo in working bone, skin, sinews, etc. — might perhaps be converted into additional support if skilfully construed.

The chief factor in weakening these obstacles and so in promoting technological advance Mr. Veblen finds in the appearance of three new mutant races, — the three racial stocks of which the European populations and their offshoots are still mainly compounded. Of these races the latest — the dolicho-blond — appeared during the early neolithic period. Now these new races, perhaps, in most eminent degree the dolicho-blond, were characterized by an endowment of instincts among which the sense of workmanship, the parental bent, and those dispositions which constitute the "spirit of enterprise" were relatively more powerful than the like propensities had been among the earlier races. Hence the tabu upon innovation counted for less among these mutants than among their forerunners. More-

over, the new races had the great advantage of coming into a world where considerable progress had already been achieved in the material arts of life. They could and did borrow freely the achievements of the older races; for the archaeological evidence from neolithic times supports the view that life was fairly peaceable, and that not a little trading was carried on. Now when things are borrowed most of their magical halo is lost in transit, so that they can be turned to use by their new owners in a much more matter-of-fact fashion than by their old owners. Hence the contamination of workmanship by its self-begotten animism counted for less among the new races, and mechanical efficiency had freer play.

Savage life presents a sort of archaic communism. But the slow technological advance which may take place gradually causes free workmanship to be superseded by a pecuniary control of industry. For when technological advance has produced an appreciable resort to indirect methods of production and an accumulation of wealth beyond the current necessities of subsistence, there develops slowly the epoch-making institution of ownership. With an accumulation of wealth comes also a stronger inducement to aggression, hence a marked increase of fighting, and hence the advent of the war chief. Ownership comes to vest largely in the war leaders, so that rights of ownership blend with notions of mastery. This development of predatory institutions, initiated by technological advance, reacts most unfavorably upon the instinct of workmanship. Interest is shifted from the fulness of life of the community and centers in the warlike glory of the tribe, its leaders, and its god. The fullest development of this type of culture is found among the pastoral peoples of the east, whose gifts enabled them

to make great conquests, but whose inattention to the basic arts of life involved their wide empires in inglorious collapse.

That the Western peoples have been able to make more consistent progress than the Eastern pastoralists arises from the fact that among them the predatory phase of the pecuniary culture gave way sooner to the commercial phase. "Owing, probably, to the peculiar topography of Europe, small-scale and broken, the pastoral-predatory culture has never been fully developed or naturalized in this region, nor has a monarchy of the great type characteristic of western Asia ever run its course in Europe" (p. 231). Not that the Europeans kept the peace; but, since the close of the Dark Ages at least, war has not precluded a pertinacious pursuit of the arts of subsistence among them. Their pecuniary organization, indeed, was by no means wholly favorable to the progress of technology; for it led to a conventional disesteem of labor, to conspicuous waste, to conflict instead of harmony of individual interests, and it brought the matter-of-fact knowledge on which technical progress depends into disrepute among the well-to-do and left the workers no appreciable leisure or energy for indulging idle curiosity. Still, this phase of culture permitted the rise of the business-like "middle classes" — and these classes had at least a business interest in the progress of the arts.

From this point onward, Mr. Veblen is dealing with materials which are more familiar to economists. But, as ever, he looks at familiar facts from a strange angle. What interests him in the era of handicraft is that the instinct of workmanship comes to the fore again, but is again self-contaminated "in the way of an anthropomorphic interpretation that construes the facts of experience in terms of a craftsmanlike bent" (p. 242).

To this self-contamination Mr. Veblen traces the broadly characteristic features of early modern sciences. Under the daily discipline of the handicraft system material science rose out of scholasticism to the conception of the Creator as the Master Craftsman who made a beneficent Order of Nature. It was the business of science to discover the Laws of this Natural Order.

Despite this warping of the sense of workmanship, technology progressed rather rapidly under the handicraft system, and this progress was the primary factor in producing the salient features of present day culture, — capitalism and the machine process. More elaborate industrial equipment increased the pecuniary requirements of business and threw the discretionary control of industry into the hands of the moneyed men. On the spiritual side, also, the handicraft system paved the way for capitalism; for capitalism rests on a legal and customary basis of Natural Rights, which is a derivative of the beneficent Order of Nature made by the Great Artificer. What Mr. Veblen says on these topics in his concluding chapters may be passed over, partly because many of the fascinating ideas there developed at length have been briefly suggested in his earlier publications (especially the *Theory of Business Enterprise*), partly because much the same materials are treated in the next book on my list.

V

Mr. Sombart's latest book, *Der Bourgeois*,¹ is a popular version of *Der Moderne Kapitalismus*, issued *ad interim* while the new edition for the use of scholars is coming out in parts. While, as has been said, it

¹ *Der Bourgeois. Zur Geistgeschichte des modernen Wirtschaftsmenschen.* Von Werner Sombart. München und Leipzig, Duncker und Humblot, 1913. 8°, pp. vii + 540.

covers much the same period as Veblen's later chapters, the method of treatment is very different. Veblen assumes in his reader a knowledge of the substantial facts, and as his own contribution indicates the causal connections between the broad features in the process of cultural growth. His is a book of interpretations written by one with a genius for taking the cosmic point of view. When he cites a fact it is for purposes of illustration — not for purposes of giving information or proving his theories. These theories rest on a wide and curious range of learning, which few of us command, so that most of us accept or reject them on grounds of preconceptions rather than on grounds of evidence. Mr. Sombart has somewhat the same penchant for interpreting economic history; but he also likes to write it. His text is full of diverting details, it is supplemented by long pages of learned notes, it tells the reader what the facts were besides setting these facts in what he conceives to be the clearest perspective. If we do not agree with his conclusions, he tells us where to look for proof.

Unlike Veblen again, and unlike Wallas also, Sombart has little to say about the structure and the functioning of human nature at large. None the less, his writings are distinctly contributions to social psychology. For the central feature of economic history to him is "*Geistesgeschichte*." Capitalism, for instance, means to him a definite and peculiar complex of habits of thought and action. His task is to show how this complex has been gradually evolved within the West-European culture (p. 9).

According to Mr. Sombart, the capitalistic spirit is a hybrid, bred by crossing the spirit of business enterprise upon the burgher spirit. Each of these parents in turn is made up of various elements: business enter-

prise is a synthesis of avariciousness, adventurousness, inventiveness, and much besides; while the burgher spirit is compounded of industry, thrift, honesty, and rational calculation (pp. 24, 194, 236). The first part of the book, over which I shall pass rapidly, tells how this hybrid was produced historically; the second part tells why social evolution took this particular direction.

Lust for gold manifested itself early among the European peoples, as the Sagas show. But the idea of making money by regular economic activity developed late. Highway robbery and piracy, magic and alchemy, scheming projects of all sorts, usury, gambling and speculation scarcely differing from gambling, were much more "natural" ways of seeking treasure, and all were practised on a grand scale before capitalism arose. Meantime certain qualities indispensable to the capitalist enterprises were being developed in other than business activities. In war, in the management of lands, in the administration of state and church there was scope for inventiveness, capacity for organization, and capacity for managing men without compulsion by appealing to their interests.

As for the burgher spirit, Mr. Sombart shows that the worldly virtues of industry, thrift, and honesty have been inculcated in much the same fashion by a long line of popular moralists from Alberti in the fifteenth century to Benjamin Franklin in the eighteenth. The other chief constituent of this spirit, rational calculation, made notable advances through the rise of book-keeping and its fruition in accountancy.

There follows an interesting series of chapters sketching the rise and frequently the decline of capitalism in Italy, Spain, France, Germany, Holland, England, and America. But, while he is concerned to insist upon the continuity of the development from mediaeval Florence

to contemporary New York, Mr. Sombart shows that there are marked differences between the early bourgeois and the bourgeois of today. The fundamental difference is this: in all the thinking and scheming of the old-fashioned bourgeois, the weal and woe of living men was the foremost consideration, whereas in modern business the center of interest is profits and the prosperity of the business enterprise as such (pp. 195 and 217).

With this historical material in hand, Mr. Sombart now asks: How did the capitalistic attitude arise in the minds of men? He answers: this attitude is partly a matter of instinct, partly a matter of character, partly a matter of knowledge. The bourgeois got his instinctive capacities by inheritance, his character by training, his knowledge by instruction.

Sombart's account of the instinctive capacities which are the fundamental basis of the bourgeois' attitude is perhaps the least satisfactory part of his book. He assumes that all the phenomena of the capitalistic spirit may be traced back to certain inherited "dispositions." These dispositions appear to be numerous, but no attempt is made to define them beyond the insertion of some rather obvious comments upon the qualities exhibited by "enterpriser natures" and by "burgher natures" — qualities like cleverness, decision, deficiency of feeling as compared with intellect and will. Of course, the true bourgeois is born with both these natures. Nor is Sombart's dealing with difference of racial endowments impressive. Races mean to him not the racial types which modern anthropologists have found to exist among the populations of Europe, but the various races of which history tells. Among these races he regards the Celts and certain Germanic tribes, particularly the Goths, as deficient in native gifts for

capitalistic activity. Hence in large part the backwardness in business of the Scottish Highlanders, the Irish, the French, the Spaniards and the Portuguese.¹ The peoples highly endowed with capitalistic dispositions are the Romans, Normans, Lombards, Saxons, and Franks, whom he groups together as "hero-peoples," and the "trading-peoples," the Etruscans (largely represented in Florence), the Friesians (who settled Holland and the lowlands of Scotland), and the Jews.

The bourgeois virtues Mr. Sombart derives chiefly from religious teaching, altho he recognizes that certain classical philosophers exercised an influence. Catholicism inculcated from the start the burgher virtues of industry, frugality and honesty; it insisted upon a rational conduct of life — the subjection of natural impulses to a rule of reason laid down by the church. And the Church modified her teachings to keep pace with the times. From the fourteenth century onward her writers upon ethics manifested a clear knowledge of and a lively sympathy with the new developments in economic life. Poverty as an ideal disappeared from her teachings to the laity. Nor were men longer taught to remain contentedly in that station of life in which God had first placed them. Even the prohibition of interest was given a form positively favorable to the rise of capitalism. Investments and loans were sharply contrasted, the former were heartily approved, the latter as heartily condemned. That is, every one was encouraged to take his share in the management and risks of business, and discouraged only from living in idleness and security upon the fruits of other men's labors.

¹ In speaking of the Irish, Mr. Sombart makes an amusing blunder: "even in the whirlwind of American business life they have preserved their comfortable quiet in large measure, preferring to save themselves from the turmoil in the quiet harbor of a political office" p. 270.

Protestantism threatened at first to obstruct the rise of business enterprise. Every intensification of religious feeling tends to make men indifferent to worldly wealth. In addition Lutheranism was characterized by a reactionary preference for the simple life of the peasant and craftsman, while Calvinism developed a similarly reactionary exaltation of poverty, and in its Puritan strains filled the week so full of religious exercises as to leave scant time for an "excess of worldly cases and business." If the Protestant churches did not dam the rising tide of capitalism, then, it must have been because in their own despite other elements in their teaching favored the bourgeois attitude toward life. Of these elements the chief was a passionate insistence upon the necessity of holding the fleshly lusts in subjection, of practising the burgher virtues which Thomas Aquinas had praised. Idleness, sensuality, amusements of all sorts, extravagance, and artistic interests were condemned in the interests of the soul; but the condemnation proved also to be in the interests of the pocket book.

Judaism, finally, was even more favorable to the business life than Catholicism. It never inculcated the ideal of poverty, it was even more thoro than Catholicism in its teaching of rationalism, it went as far as Puritanism in checking artistic interests. But the great impetus which Judaism gave to the rise of business habits came from the distinction which it drew between the lawful treatment of Jews and Gentiles. From a co-religionist the Jew could not lawfully take interest or lawfully exact more than the "justum pretium." But from a Gentile he could with a clear conscience do both. In his dealings with the latter he was free to develop business morality of the modern sort.

Besides these biological and moral sources of the capitalistic spirit, Mr. Sombart discusses the social circumstances from which it is in part derived. (1) Of the various ways in which the state is held to have hindered or helped the economic transformation, one only is likely to be overlooked by other students — namely, state policy toward heretics. Sir William Petty's remark, "Trade is not fixed to any species of Religion as such; but rather . . . to the Heterodox part of the whole," seems to have been a just generalization. Mr. Sombart thinks that there was a correlation between heterodoxy and inherited capitalistic aptitudes; but he also suggests that for people cut off in large measure from participation in the social and political life of the country there was little left save immersion in business interests. (2) For similar biological and social reasons he regards emigration as highly favorable to capitalism. The immigrant must work of necessity in his new home, and there he can work with less interference from tradition than in his old home. Hence the large number of advances scored by immigrants both in business organization and industrial technique. (3) The inrush of Peruvian silver and Brazilian gold was a factor of first-rate importance, in that it hastened the development of the money economy, intensified the desire for wealth, and spread the fever of speculation. (4) Improvements in industrial technique made a similar appeal to the business imagination. They also nourished other traits characteristic of the bourgeois: rationality, interest in the means rather than the ends of life, imbecile delight in what is called "progress," but might better be called acceleration. Perhaps still more important were the indirect influences of invention upon capitalism — especially, the increase of population which it made possible. (5) The economic activities of

the pre-capitalistic era — particularly trade, above all foreign trade and money lending — of course offered an elementary training in bourgeois habits of mind. Finally, capitalism, once born, had a cumulative growth: the institution nourished the spirit from which it sprang. The rationality of business methods became more perfect, the "system" became more and more independent of the men who ran it, competitive conditions forced a ceaseless expansion in the size of enterprises, an ever more exacting attention to details, an ever faster pace in the operation of machinery, an ever shorter period of "turn over." So completely has the capitalistic spirit possessed its victims that sane and able men spend their whole lives and prematurely exhaust their whole energy as slaves of business, not from a sense of duty, not as yielding to a necessary evil, but with enthusiastic devotion to what they love best.

As may be judged from the preceding outline, Mr. Sombart's work is a cross between economic history and sociology. One thinks of him as a born theorist, remaining such notwithstanding prolonged training as an historian. Doubtless he has the defects as well as the qualities of this combination. The social psychologists assert that his analysis of mental evolution is crude; the historians assert that his details are often wrong. Like a sociologist dipping into history he often bases a congenial generalization upon scanty evidence. Like a man of documents dipping into theory he often gives the formal pedigree of an idea, when what is needed is an explanation of the conditions which gave wide currency to a habit of thought. Probably much of his work will have to be done over again. But after all deductions have been made, it may well prove true that Mr. Sombart has contributed more to the progress of economics than any German of his generation.

Schmoller's great effort to produce economic science according to the specifications of the historical school achieved little more than the mechanical juxtaposition of sections of economic history and sections of conventional economic theory. Sombart has come much nearer the goal of blending these two elements in such a fashion as to explain at once the current working and the cumulative changing of economic processes.

VI

Mr. Walter Lippmann¹ is a disciple of Mr. Graham Wallas, and to him Mr. Wallas has dedicated *The Great Society* in a charming note. Like his master Mr. Lippmann has had first-hand, tho briefer, experience of politics, like his master he has turned to psychology for a key to its riddles, and like his master, he "writes with the practical purpose of bringing the knowledge which has been accumulated by psychologists into touch with the actual problems of present civilized life." To this end he has given his book a popular form, chosen illustrations that are strictly up-to-date, talked freely about the politicians who are conspicuously before the public, and cultivated a style full of journalistic "snap."

Mr. Lippmann's chief conscious difference from his master concerns a psychological issue. In his opinion, "Mr. Wallas works with a psychology that is fairly well superseded" (p. 84). Mr. Lippmann adheres to the "Freudian School." Unfortunately, he has not attempted to justify either his doubt of the psychology on which Mr. Wallas depends, or his faith in the methods of Freud. Perhaps this omission does not

¹ A Preface to Politics. By Walter Lippmann. New York, Mitchell Kennerly, 1913. 8°, pp. xiv + 318.

detract seriously from the popular appeal of his book, but it leaves his superstructure resting upon a foundation of faith rather than a foundation of knowledge. As he himself says, not even the disciples of the Freudian school " would claim that it had brought knowledge to a point where politics could use it in any very deep or comprehensive way " (p. 84).

Conscious of this weakness in his position, Mr. Lippmann meets it by contending that the way to achieve more certain knowledge is to apply what insight into human nature we already possess to our dealings with practical problems. If we assume the experimental attitude toward life, " every mistake will contribute toward knowledge " (p. 107). " . . . to suppose that the remedy lies in waiting for monographs from the research of the laboratory is to have lost a sense of the rhythm of actual affairs. That is not the way things come about; we grow into a new point of view; only afterwards, in looking back, do we see the landmarks of our progress " (p. 86). " In other words, we must put man at the center of politics, even tho we are intensely ignorant of men and of politics. This has always been the method of great political thinkers from Plato to Bentham. But one difference we in this age must note: they made their political man a dogma — we must leave him an hypothesis " (p. 106).

Mr. Veblen has an eerie detachment from current political issues that is as disconcerting to most readers as Mr. Lippmann's immersion in them is comfortably natural. Nevertheless, Mr. Lippmann's view of the fundamental issue in present politics is best formulated in *The Instinct of Workmanship*. Most peoples that have had a long history, Mr. Veblen remarks, " have from time to time been brought up against an imperative call to revise their scheme of institutions in the light of

their native instincts" (p. 24). Mr. Lippmann sees America in this plight today. The chief task of statecraft "is the invention of forms and institutions which satisfy the inner needs of mankind" (p. 86). The chief error of most reform projects is that they try to preserve the institutions by placing tabus on the instincts. The chief hope of real reform lies in modifying the institutions so that the instincts may work to good ends.

It is vain to forbid the existence of evil by law. Human desires cannot be eradicated: "the impulses, cravings and wants of men must be employed. You can employ them well or ill, but you must employ them" (p. 46). To employ them well you must find what William James called the "moral equivalent" for evil. "Instead of tabooing our impulses, we must redirect them. Instead of trying to crush badness we must turn the power behind it to good account. The assumption is that every lust is capable of some civilized expression" (pp. 49, 50).

This assumption is justified by the Freudian doctrine of "sublimation." The Freudian psychologists "have brought forward a wealth of material which gives us every reason to believe that the theory of 'moral equivalents' is soundly based, that much the same energies produce crime and civilization, art, vice, insanity, love, lust, and religion. In each individual the original differences are small. Training and opportunity decide in the main how men's lust shall emerge. Left to themselves, or ignorantly tabooed, they break forth in some barbaric or morbid form. Only by supplying our passions with civilized interests can we escape their destructive force" (p. 51).

But how is "the creative politician," seeking "good substitutes for the bad things we want" (p. 83), to

know good from bad ? To ask that naïve question in the expectation of getting an answer is to imply that "somebody has done the world's thinking once and for all" (p. 205). The truth is that social philosophies, with all their airs of finality, are today and always have been the servants of men's purposes, not valid statements of the ultimate end of endeavor. "We find reasons for what we want to do" (p. 213).

Accordingly, "Statesmanship cannot rest upon the good sense of its program. It must find popular feeling, organize it, and make that the motive power of government" (p. 220). How this is done we learn from Sorel's doctrine of the "social myth." "We in the midst of our science and our rationalism are still making myths" — myths which "convey an impulse, not a program," which "embody the motor currents in social life" (p. 230). We can see that the creeds of the past were such dynamic myths; so also are the creeds of the present; so will be — and so should be — the creeds of the future. What we need now is the myth that will put most energy into our efforts at social reconstruction, that will emphasize the devising, adapting, constructing faculties. Perhaps the best myth for this purpose is "that society is made by man for man's uses, that reforms are inventions to be applied when by experiment they show their civilizing value" (p. 243).

Such is the burden of Mr. Lippmann's message. To feel its full force, one should see what effective use Mr. Lippmann can make of it as a basis for criticizing notions familiar to us all. Peculiarly penetrating is his incisive dealing with the Chicago Vice Report in chapters V and VI. But what concerns us here is the theoretical bearings of these essays on current politics.

Broadly speaking, Mr. Lippmann accepts and applies the same general conception of human nature and social

institutions, of the relations between man's inherited capacities and acquired aptitudes as Thorndike, Wallas, and Veblen. Indeed, I do not see that the two ostensibly fresh elements which Mr. Lippmann introduces into the discussion give him any advantage over the preceding writers. He uses the Freudian psychology as a basis for the theory of "sublimation," — the theory that instinctive impulses may give rise either to good or to evil actions according to the points on which the individual's interests are focussed. Had *The Original Nature of Man* been published before Mr. Lippmann wrote, he might have learned this fact from Mr. Thorndike in a less sensational but probably more accurate form than from Dr. Freud. Similarly, the element of truth in the theory of social myths which he borrows from Sorel he might have learned in less paradoxical but more general form from Veblen's paper on "The Place of Science in Modern Civilization,"¹ even before *The Instinct of Workmanship* appeared.

VII

As a theorist, Mr. Walling has few rivals within the Socialist movement. He has too wide a knowledge of economic processes and too much analytical insight to remain an orthodox Marxian. He has also too honest a temper to preach a creed which he thinks needs revision, and he has too constructive a bent to be content with negative criticism. Within the last three years he has published three books which form the most considerable contribution to socialist theory yet made in America. Of these books the first two were devoted largely to keen criticism of contemporary socialist doctrines and current reform movements.² The present volume — *Pro-*

¹ *American Journal of Sociology*, March, 1906.

² *Socialism As It Is*, and *The Larger Aspects of Socialism*. The Macmillan Company. New York, 1912 and 1913.

gressivism and After — makes a wider appeal.¹ It is a serious effort to think out the future developments of the political movements which seem to possess the greatest vitality at present: an effort, in other words, to forecast the changes in social organization which may be expected to occur within the next generation.

In brief, Mr. Walling thinks the proximate future belongs to three parties: the Progressives, the Labor Party, and the Socialists. The Progressives, now on the point of achieving political control, will establish a form of State Capitalism. Under this regime the Labor Party, dominated by the aristocracy of labor, will gradually acquire the balance of power and convert State Capitalism into State Socialism. Then, after a time, the Socialist Party, representing the laboring masses, will come into its own and be able to set up a truly Socialistic State. This whole series of transformations will probably occur within the next quarter century (p. xxxii). It is this last prophecy — that many of us in middle life will see the inauguration of socialism — which lends an almost sensational interest to Mr. Walling's analysis and gives a personal tang to our curiosity about the grounds on which it rests.

Progressivism means to Mr. Walling not only the movement led by Mr. Roosevelt, but also that led by President Wilson. In England it is known as the Liberal Party; in Australia, Germany, France, and Italy it exists under various names. But everywhere the gist of the movement is the same: an effort on the part of small capitalists to check what they regard as the abuses of large capitalists. The measures now in process of enactment toward this end are primarily governmental regulation of "Big Business," the imposi-

¹ *Progressivism and After*. By William English Walling. New York, The Macmillan Company, 1914. 8°, pp. xxxv + 496.

tion of super-taxes on large incomes, and the like. But the policy is bound to develop in the direction of a thoroughgoing scientific reorganization of industry by government. There is a limit, however, beyond which these reforms will not go so long as the mass of business men, farmers, and professional people remain in control. Those reforms will be adopted which pay the small capitalist interests, and those only. Among such reforms will be government ownership of monopolies, of fundamental industries like the railways, and of the large-scale industries providing consumers' necessities (for the small capitalists are keenly concerned to keep down the cost of living). State Capitalism will also secure the "conservation of labor" as the most important of natural resources. It will go in for "scientific management," minimum wages, industrial schooling, housing reform, mothers' pensions, and the like. In all this the government will regard laborers as machines in which enormous sums can be profitably invested; but it is misleading to call this approaching regime "the Servile State" as Belloc has done, for one of the points about which scientific management will become perfectly clear is that laborers are after all human machines and work most efficiently when they have a large measure of freedom. Accordingly, the masses will be not only much better off, but also much freer under State Capitalism than they are at present, — their gains will not be allowed to trench upon profits, that is all.

It is partly through this extension of democracy that State Capitalism will be gradually transformed into State Socialism. All the non-capitalist classes will be striving for power, and the aristocracy of labor will hold a strategic position between the masses and the ruling class. Organized in the Labor Party they will utilize this position, not to introduce genuine socialism, but

to gain special privileges for themselves. Their triumph will be hastened by recruits from the small-capitalist class. For State Capitalism will favor an increase in the number of independent business men, but will not be able to prevent an increase of insolvencies, and the bankrupts will favor a state guarantee of incomes rather than a precarious dependence upon profits. In agriculture, also, State Capitalism will be compelled by its interest in cheap food to discourage inefficient farmers. In its own despite, it will drive many unsuccessful farmers into the arms of the Labor Party.

When these changes have put the Labor Party into power, it will seek to entrench the position of the privileged wage- and salary-earners who make its dominant factor. It will abolish the rule of capitalists in government and industry, it will extend the list of publicly-operated enterprises materially, it will nourish the laboring masses still more carefully, it will leave only one special privilege standing. But that one is "the greatest of inequalities and the worst injustice" — namely, practical exclusion of the children of the masses from the expensive training needed to share in the work and the advantages of the aristocracy of labor (p. 193).

We can already see the beginnings of that contest within the ranks of labor between the unskilled and the skilled which is destined to become the central issue of politics under State Socialism. And this contest can have no other outcome than complete democracy — which by that time will mean genuinely equal educational opportunities for the children of all classes. For the more scientific becomes the organization of industry, the more damage can the unsatisfied masses do by practising sabotage and calling intermittent mass strikes. The more equal becomes the distribution of wealth, the less will the ruling class have to fear from

the final step. The more society experiments with the advantages of training the talented children of wage-earners, the higher will it rate the prospective advantages of granting even the children of the unskilled all the education by which they can profit.

Now this is no place to argue the plausibility of Mr. Walling's forecast at large; but it is the place to consider the concept of human nature on which it rests. The reader must have noticed both that this concept is very different from that held by Thorndike, Wallas, Veblen, Sombart and Lippmann, and that it is very like the concept implicitly held by most economic theorists. For Mr. Walling's expectations are tacitly based on the assumption that the factor controlling political behavior today and tomorrow is a clear apprehension of economic self-interest and a firm determination to follow it. Indeed, Mr. Walling's fundamental amendment of orthodox Marxism carries economic determinism further than most socialists will go. He smashes the romantic notion of working-class solidarity by applying the "economic and class interpretation . . . to the constituent elements of the Socialist Party" (p. 240). Quite in the spirit of the classical economists, he makes place in his system for only one set of limitations upon the pursuit of economic self-interest — the limitations of ignorance; and he holds that even these limitations will decline rapidly as education extends. He imputes to the unskilled laboring masses of the future a mobility greater than that imputed by Ricardo to capital (p. 296). Even so sentimental a matter as patriotism gets reduced in his analysis to business elements (chapter XV).¹ In fact, the only set of people in Mr. Walling's

¹ One sentence might be construed to mean something different from economic determinism: "when we look for the motive behind the political act and its immediate guiding principle we find with Wells (in his *New Machiavelli*) that it is prompted 'by interests and habits, not ideas.'" Of course in psychology "interests" means some-

book who are not guided by enlightened self-interest are the members of the present Socialist parties. They are not "as well-informed and aggressive in defending their interests as pure democracy and Socialism require. . . . And so the Party machinery is used almost as much to bring the Party to follow its leaders, who follow the non-Socialist public, as it is used to persuade the non-Socialist public to follow the Party" (p. 221).

It is a suggestive fact that Mr. Walling has a long and intimate acquaintance with the doings of the Socialist party in America. If he could know as well the Progressives, the conservative wings of the Republican and Democratic Parties, the Labor Party, and the Socialists of the future, would he not find that they too lack clearness of vision and singleness of purpose? His brother socialist, Mr. Lippmann, says shortly, "No genuine politician ever treats his constituents as reasoning animals."¹ If our social psychologists are not wholly mistaken, we may add: No political theorist should treat human beings as calculating machines.

In short, I think Mr. Walling's book is an excellent piece of "pure theory." But "pure theory" is an even more fallible guide to what we may expect from political evolution than to what we may expect from business activities.

VIII

"There can be no question," wrote a distinguished psychologist in 1909, "that the lack of practical recognition of psychology by the workers in the social sciences has been in the main due to its deficiencies. . . . The department of psychology that is of primary thing very different from what it means in economics. But I fear Mr. Walling confused the two meanings for a moment. Judging from the book as a whole, "interests" means material advantages.

¹ A Preface to Politics, p. 217.

importance for the social sciences is that which deals with the springs of human action, the impulses and motives that sustain mental and bodily activity and regulate conduct; and this, of all the departments of psychology, is the one that has remained in the most backward state, in which the greatest obscurity, vagueness, and confusion still reign."¹

Happily, the preceding reviews justify the belief that this situation is changing for the better. For Parmelee and Thorndike, Wallas, Veblen, and Lippmann, even in a measure Sombart and Walling, are endeavoring to explain how men *act*. Studies of tropisms, reflexes, instincts, and intelligence; of the relations between an individual's original and acquired capacities; of the cultural roles played by racial endowments and social institutions are vastly more significant for economics than classifications of conscious states, investigations of the special senses, and disquisitions on the relations between soul and body.

It was because hedonism offered a theory of how men act that it exercised so potent an influence upon economics. It is because they are developing a sounder type of functional psychology that we may hope both to profit by and to share in the work of contemporary psychologists. But in embracing this opportunity economics will assume a new character. It will cease to be a system of pecuniary logic, a mechanical study of static equilibria under non-existent conditions, and become a science of human behavior.

WESLEY C. MITCHELL.

COLUMBIA UNIVERSITY.

¹ W. McDougall, *An Introduction to Social Psychology*, pp. 2, 3.

THE CITY OF LONDON AND THE BANK OF ENGLAND, AUGUST, 1914¹

SUMMARY

I. Peculiar position of Great Britain, a creditor country, as regards external payments, 48. — II. Depositories opened by the Bank of England outside Great Britain, 50. — III. Obligations by foreigners not paid, 52. — IV. Embarrassments of accepting houses, discount houses, joint stock banks, 55. — V. Stock exchange closed, 58; Bank of England guaranteed by Government against loss on bills taken over, 60; the bank rate kept moderate, 60. — VI. Possibility of internal drain, 64; Bank act suspended, 65; Currency Notes issued by Government, 66; extent of additional issues, 68. — VII. Conclusion, 70.

I

THE peculiar relation of Great Britain to the international money market has again enabled the Bank of England to accomplish without the support of a large gold reserve what has been beyond the power of the great state banks of Europe in spite of unexampled gold hoards. The Bank of England alone met the catastrophes of August, 1914, without a suspension of specie payments and without availing herself of emergency privileges. A greater leniency than usual, supported by a guarantee from the Treasury, in regard to the character of the bills taken over from the outside market, was the only respect in which she departed from her usual courses. So happy a result may be attributed partly to an obstinate, conservative courage; but chiefly to the peculiar position of Great Britain in

¹ In an article published in the *Economic Journal*, September, 1914, I have attempted to deal generally with the financial situation in England during the first month of the war. In this article I shall treat more particularly of the relations of the City to the Bank of England.

the international money market, referred to above. A large part of London's difficulties, however, as well as her strength, arose, as we shall see, out of this same peculiarity.

In a general financial crisis, whether due to war or not, there are two separate problems, namely, due provision for the internal currency and due provision for external payments, of which the second is in general the crucial one. The question of the internal currency I postpone for the moment. It is the position of Great Britain in respect of external payments in case of sudden emergency, which is peculiar. This is a commonplace of the subject. Great Britain is a creditor nation, not only in the sense that she has large permanent foreign investments and an annual balance available for increasing them, but also in the sense that she habitually loans to foreign centers large sums of money which are repayable *at short notice*. It is always within her power, therefore, by refusing to renew these loans, to turn the immediate balance of indebtedness in her favor. The central bank of a country which in this second sense is on the whole a debtor and not a creditor, must clearly, if it is to be certain of always being able to meet international obligations and to maintain the local currency at parity, keep a much larger reserve of gold than a country which, even if it is temporarily in the position of debtor, can quickly turn round and become creditor.

All this, as I have said, is a commonplace. It has been the reason and justification for the Bank of England's holding one of the smallest gold reserves in Europe, while building up on the basis of it the largest volume of business.

Broadly speaking, reasonable anticipations based on this have been borne out by the event. For the first week or two we should have felt somewhat easier in our

minds if gold reserves had been a little larger; but this psychological relief, which the courage of the Bank was fortunately able to do without, would have been the extent of the gain. Thus the fears of many former critics regarding the low level of London's gold reserves have not, on the whole, proved well-founded, even on an occasion when the whole structure of her financial system has received a blow of maximum severity.

This then is the first salient fact. Within a week of Austria's declaring war against Servia (July 28, 1914), all the world found themselves owing money to London. There was no danger that any country would be able to take gold from the Bank of England in appreciable amounts, and most of those whose central banking authorities were able and willing to release gold found themselves under the necessity of remitting it. Altho some authorities are reputed to have believed at the outset that the Bank of England would not be able to avoid a suspension of specie payments, there was never any reasonable occasion for such a measure. Whether it is wise even for a debtor nation to suspend specie payment, so long as any substantial quantity of gold is left, may be doubted. That it is not the course for a creditor to pursue, is certain. It did not take long, therefore, to discover that the Bank of England was perfectly free from this particular danger.

II

The Bank's difficulties arose, indeed, from an opposite source. The other combatant countries, in spite of the enormous gold reserves which they had laboriously accumulated, suspended specie payments immediately, desiring, we can only suppose (unless they intend to reverse their policy later) to keep something in hand

wherewith to pay an indemnity. Brazil and Argentine, slow to learn the spirit of sound currency, soon prohibited the further issue of gold from their Offices of Conversion. Only India, South Africa and the United States were left, at the same time possessing much gold and prepared to part with it. And from all these countries in the early days of the war high charges for insurance rendered the carriage of gold by sea prohibitively expensive.

This state of affairs was met by the Bank in a bold and striking manner by opening depositories for the receipt of gold outside Great Britain. At Ottawa and at Johannesburg the authorities of the Colonial Governments were authorized to receive gold on behalf of the Bank of England. As part of India's gold reserve is held in London (tho quite apart from the Bank of England's reserve), immediate steps of this kind were in her case unnecessary. But it may be expected that a depository will be opened at Bombay if it is required.

Altho it has not been explicitly stated that gold received at these depositories is included in the weekly statement of the Bank of England's reserve, there is no doubt that such is the case. The Bank Act does not prescribe the location of the gold in the Issue Department. It has commonly been the practice to lodge large quantities at the Mint, outside the Bank's own walls. Tho the opening of depositories elsewhere within the British Empire constituted an unexpected extension of this principle, there was nothing in it, I believe, contrary to the pre-existing law.

The actual figures of the movement of gold into and out of Great Britain are worth notice. On July 22 the Bank of England held about £40,000,000 in gold, — a normal amount. On July 29 about £1,000,000 in sovereigns was taken for the Continent, on July 30

another £1,000,000 and on July 31 a third £1,000,000, chiefly for France. On August 7, after a Bank Holiday lasting from August 3 to 6, £230,000 was taken for France. This ended the outward movement, and the tide turned strongly in the other direction. On every single day for the rest of August the Bank bought gold, the total influx from August 7 to the end of the month amounting to the considerable sum of £18,500,000. Of this amount, which, as I have said, includes the receipts at the depositories, £7,900,000 was in United States gold coin, £7,200,000 in bars, £2,000,000 in sovereigns from the Indian Reserve in London, and £1,400,000 from South America (Argentine, Brazil and Uruguay). Nothing was received from any other source. During September the inward flow continued, tho at a reduced rate. Up to September 19 a further amount of £5,400,000 had been received, of which £2,400,000 was in United States gold coin and £3,000,000 in bars.

III

While the Bank of England's gold position has been on the whole in accordance with anticipations, in one very important respect the City of London was taken unawares, — tho, in the light of what has happened, it would be hard to maintain that events have followed an unnatural course. From this all our chief difficulties derived their origin. No one, I think, had put to himself beforehand, with sufficient obstinacy and scientific curiosity, the questions, — what will happen if on a very large scale our foreign creditors cannot pay ? what reactions would such an occurrence exert upon the whole of our internal financial system ?

This, nevertheless, was the situation which, even before the actual declaration of hostilities, plainly and

threateningly disclosed itself. Not only did the citizens of combatant and enemy countries fail us, and the merchants and municipalities and governments of South American countries with whom to default was but to put on again an old and favorite suit of clothes, — but the bankers of the United States, prosperous, free from panic, and far from the scene of hostilities, were unable for the time, from the difficulties and expense of shipping gold, to remit in full what they owed us and what we depended on receiving from them. Almost all the emergency measures which it was necessary to adopt in London were directed towards abating the dangers threatened to the whole financial structure of the City by the failure or inability of foreigners generally to remit to us what they were under an obligation to remit. The clue to the difficulties of the City of London is to be found in the reactions of a breakdown in the remittance system on her internal financial structure, and in the consequent embarrassments of those elements of the money market through whose agency short-period loans to foreigners are chiefly contracted.

The foreign obligations immediately due to London were mainly on account of bills accepted in London, either by London houses or by the London agencies of foreign banks, or on account of stock exchange transactions carried forward there on behalf of foreign clients. There were also substantial sums on direct loan with the London agencies of foreign banks, of which the two great German institutions, the Deutsche Bank and the Discontogesellschaft, turned out to be the most important. Impending, but not so immediate, there were the usual payments due on former permanent loans, together with instalments on account of repayment of capital, and (this was chiefly important in connection with the United States) a considerable

volume of short-period loans, temporarily contracted with a view to funding later on, but due for discharge before the end of the year.

For the payment of these various forms of indebtedness as they fell due, foreign creditors had mainly relied either on renewing them on much the same terms as before, or on turning them into funded debts, or on ultimately shipping goods or international securities to meet them.

As soon as war became imminent, it was clear that London would *not* renew or fund debts falling due, at any rate for some time.

It was utterly impracticable to find a market for commodities to an equivalent value, even if they had been immediately available and if the dangers of the war had not restricted shipping facilities. The commercial remedy, therefore, as is always the case, had to work very gradually, and was of no use for meeting the emergencies of financiers.

The financial remedies, on the other hand, which are generally available in some degree when it is temporarily impossible to renew loans abroad, are the sale of international securities and the actual remittance of gold. The first of these was put completely out of action by the closing of the world's stock exchanges. The second was rendered impossible on any sufficiently large scale, for reasons we have discussed above. Even, therefore, where the foreign debtor was immediately solvent in his own country and able to raise there the funds required to meet his liabilities, he was unable for the time to remit them.

When the technical difficulties of remittance were overcome, there remained important cases in which foreign debtors remained unable to pay, — enemies, for example, whose debts were necessarily irrecoverable

until the end of the war, and countries, of which Brazil was the chief, which had counted upon meeting their engagements from the proceeds of fresh loans and were quite unable to meet them otherwise.

In part, therefore, from the necessities of the case, and in part because London, whether wisely or not, put on the brake so suddenly as to endanger the equilibrium of the whole machine, the first, most striking, financial consequence of war was the extreme embarrassment of those elements of the money market, which were owed sums from abroad. What were the reactions of this on the City of London as a whole ?

IV

To a certain extent individuals, firms, and institutions in England, which have surplus funds available for temporary deposit, place them direct with Anglo-foreign banks, having their head offices in London, and even with the agencies of foreign banks, having branch offices there. On such deposits perhaps 2 per cent at call and 4 per cent at notice can be obtained, which is appreciably more than is ordinarily allowed by the discount houses or joint stock banks. The sudden locking up of many of these deposits caused much individual inconvenience, and a good many companies which had actually declared dividends were unable to pay them on account of having lost control over the deposits which they had intended to use for this purpose, — thus adding involuntarily to the general feeling of distrust.

But this was not the main source of trouble. The great bulk of the floating funds of the country are placed with the joint stock banks, the assets of which may be estimated, to take a round figure, at about

£1,000,000,000. One or two of these banks have lately opened foreign departments for the direct transaction of foreign business generally, and one at least is somewhat intimately connected with American business. For the most part, however, these banks do not lend their funds abroad *direct*, but through the agency of one or more intermediaries.

The most important of these intermediaries are the accepting houses, who have in effect guaranteed that the bills, held by the banks in their portfolios, will be met at maturity. To a large extent, of course, the accepting houses are acting on behalf of British clients. But on an important scale the London accepting houses accept bills arising out of transactions both parties to which may be foreigners. These houses, that is to say, guarantee the bills in return for a commission, reckoning on their foreign clients' putting them in funds to meet the bills at maturity. This accepting or guaranteeing business is quite distinct from the business of advancing the capital with which the bills are carried.

When the remittance system broke down, therefore, the first people to be in trouble were the accepting houses. Their foreign clients defaulted for the time being on a wholesale scale, and as the liabilities of the accepting houses greatly exceed their free assets, they were utterly unable to meet their engagements.

The banks found themselves, therefore, with their bills, which they usually regard as amongst their most liquid assets, suddenly turned into a non-liquid asset. The total volume of bills outstanding has been estimated at £350,000,000. The amount held by the joint stock banks, apart from the discount houses and Anglo-foreign banks, is not separately stated. I have estimated it as standing, for the *leading* banks, somewhere between £100,000,000 and £125,000,000, or perhaps 15 per cent of their total assets.

Apart from the sums advanced by the banks through their own holdings of bills, they are indirectly interested in a further amount through their relations with the discount houses. These houses hold a great quantity of bills, much of which they carry with money lent them at call and short notice by the banks. A failure of the accepting houses would have threatened the solvency of the discount houses and would certainly have made it impossible for them to repay the banks, if the latter were to call from them on a large scale.

Next to their cash in hand and their credit at the Bank of England, the joint stock banks have been in the habit of regarding this money with the discount houses as their next most liquid asset. In ordinary times this is so, and the system works very well. The total amount lent by the whole body of banks to the discount houses shows a much lower percentage variation than the amount which can be lent by an individual bank; and an arrangement by which what one bank calls another lends, allows the banks to employ their resources more fully than would be possible otherwise. But critics have always objected that if all the banks were to wish to call at once, as might happen in a crisis, the virtue of the system would have disappeared. This proved to be the case; but it had not been so clearly apprehended in advance that the difficulties of the discount houses would arise out of the difficulties of the accepting houses.

Thus a failure to remit on the part of the foreign clients of the accepting houses hit the joint stock banks with special severity, because, with what may now seem doubtful wisdom, it was the money advanced directly or indirectly through the discount houses, against the guarantees of the accepting houses, that the banks had got into the habit of regarding as their

most liquid asset. They had been relying on being able to get in an emergency precisely that part of their loans which had been placed at the disposal of foreigners.

The stock exchange also was in trouble for the same reason as the accepting houses, namely the failure of foreign clients to remit. There are numerous important firms which do a large business and carry over speculative purchases on foreign account. A firm with German connections, Messrs Derenberg & Co., was hammered on July 30. If the stock exchange had not been closed on the following day, it was believed that many other firms would have failed through not receiving payment due from foreign clients; and the failure of these would have involved other firms to whom they in their turn owed money. The forced sales consequent on these failures would break prices, it was feared, to such an extent that all borrowers on security would be gravely embarrassed by an attempt on the part of the banks to call for cover. The position was saved — I merely record the fact without comment — by the extremest remedy possible, namely the suspension of all new business and the indefinite postponement of the settlement of old business. The effect of this on the banks was to solidify a further block of what they had formerly regarded as being amongst their more liquid assets, namely the sums amounting perhaps to £80,000,000 or £100,000,000 advanced to the stock exchange.

V

What was the nature of the remedies brought to bear upon this situation through the agency of the Bank of England ?

The stock exchange problem, in spite of the grave general inconvenience arising out of the cessation of

business, was, from the point of view of the banks, secondary. The problem of the accepting houses and of the bills was the urgent one. By the first Moratorium Proclamation of August 3, which applied to bills only (a general Moratorium followed on August 6), the accepting houses were relieved of the obligation to meet their engagements immediately. But this did not help the discount houses and the joint stock banks, which found themselves in the position of having made uncallable loans of indefinite duration to the accepting houses. They had either to wait for their money or else to find some new source of liquid credit. With more courage the banks might have successfully pursued the first of these policies to a greater extent than they actually did pursue it. But they soon showed clearly enough that they were in no mood for courageous or disinterested action, and urgently demanded that the Government and the Bank of England should save them from the position in which they found themselves.

The problem presented two faces, — the provision of liquid credit, and the bearing of any ultimate bad debts which might arise through the eventual insolvency of any of the accepting houses. The banks demanded that they should be given the former and entirely relieved of the latter.

The Government, holding that it was of more importance to restore credit and banking to a normal condition than to drive a careful bargain with the banks, conceded them both demands. Almost unlimited credit was placed at their disposal in two ways: first by an advance to them of Currency Notes, to be described in more detail below; and second by an arrangement with the Bank of England to discount their bills for them. Both these forms of accommodation were granted at the low rate of 5 per cent.

But the Government not only arranged with the Bank of England to take over the discount houses' and joint stock banks' portfolios of bills, to such an extent as they might require, including bills accepted by foreign agencies against which in normal times the bank discriminates. It was also arranged that the ordinary legal liability of the banks as last holders, in the event of the bills not being duly met, should be waived, and that the Government should make good to the Bank of England any loss thus arising. The probable magnitude of such loss cannot yet be estimated with any accuracy; it depends chiefly upon how solvent the leading financial institutions of Germany may be at the end of the war. But it has been suggested that the load of bad debts, taken by the Government off the shoulders of the banks and discount houses, and added to the national debt, may possibly amount to as much as £30,000,000. On the other hand it may turn out in the long run to be a comparatively small sum.

Originally such of the bills held by the Bank of England as were not met when they fell due were to be reaccepted by their original acceptors at a rate 2 per cent above bank rate. But later another arrangement was substituted for this by which the Bank of England lent the accepting houses, at a rate 2 per cent above bank rate, enough to meet their bills as they fell due, these loans to be paid off gradually, as the accepting houses were able to collect what was due to them from their clients. This had the effect incidentally of releasing the drawers and endorsers of the bills from any liabilities under which they might otherwise lie. A further concession was also made, in order to rehabilitate the credit of the accepting houses for the purpose of new business, by which *new* acceptances entered into

by them were, until a year after the end of the war, to rank as claims, in front of the Bank of England's claim, against their free assets.

The joint stock banks and discount houses availed themselves of these arrangements on a very large scale, as is shown by the following returns of the "Other Securities" and the "Other Deposits" at the Bank of England, the bills taken over appearing in the former total and the corresponding credits placed at the disposal of the outside market appearing in the latter:—

	Other Securities £	Other Deposits £
July 22	33,732,762	42,285,297
" 29	47,307,530	54,418,908
Aug. 7	65,351,656	56,749,610
" 12	70,786,596	83,326,113
" 19	94,726,086	108,094,287
" 26	109,904,670	123,892,659
Sept. 2	121,820,692	133,818,826
" 9	116,922,759	130,704,462
" 16	113,792,525	135,042,071

The figures for July 22 may be taken as normal. Austria declared war against Serbia on July 28, and the increases in the totals for July 29 show the effect of the preliminary measures, taken by the banks, of calling in loans from the discount houses and thus forcing these houses to turn their bills into money at the Bank of England. The return of August 7 mainly shows the further effect of similar action between July 30 and August 1. (From August 2 to 6 a Bank Holiday was proclaimed.) On August 13 came the announcement that pre-moratorium bills were to be taken over by the the Bank of England; and the influence of this is reflected in the large increase for the week ending August 19. Officials of the banks and discount houses waited in queues at the Bank of England to present bills for

re-discount, and the increase during this week would have been greater if it had been physically possible for the staff of the Bank of England to deal with a greater volume of documents. By September 2 this movement had spent itself. The money market had been relieved by this time of the greater part of the bills, the payment of which at maturity was held in most doubt. The banks also were beginning to feel the burden of keeping so much money idle at the Bank of England, their inflated balances there earning them no interest at all. The rate for short loans in the open market was driven down by this weight of floating funds to a very low level, and it came to be realized that bills could be kept without risk until a date nearer their maturity before being sent in to the Bank of England, and that such delay brought with it a saving at the rate of 5 per cent per annum. Through these causes the volume of bills brought to the bank between September 2 and September 16 was less by about £8,000,000 than the volume of old bills falling due and paid off.

The bank rate was raised from 3 per cent to 4 per cent on July 30. This small change did nothing to check the rush for accommodation which had begun a few days earlier, as the action of the joint stock banks was forcing the rest of the market to realize their bills at any cost. Accordingly on the following day, Friday, July 31, the bank rate was rushed up to 8 per cent and on Saturday, August 1, to 10 per cent. These unprecedented movements served no useful purpose, and only caused a great fright by raising unfounded apprehensions that accommodation would be cut off altogether. When the Bank reopened, after the prolonged Bank Holiday, the mistake was at once corrected, the rate being lowered to 6 per cent on August 7 and 5 per cent on August 8.

Apart from its effect on the profits of individuals and on the business world's subjective feelings of confidence or of the want of it, the precise level of the bank rate possessed during August little of its usual significance. Movements of the bank rate are normally directed towards influencing the action of the discount market in taking up bills, and thus correcting any undesirable tendencies in the exchanges or in the balance of immediate foreign indebtedness. During August such indirect pressure was not required, — the discount market was doing no business in any case. It may be remarked that the interest allowed by the banks on deposit accounts and the rates for bank bills in the open market did not stand in their usual relation to bank rate. Bank rate simply represented the price charged by the Bank of England, in this case little more than an agent for the Treasury, for taking over from the banks and discount houses the bills of which these institutions did not like the look.

The volume of the "other deposits" at the Bank of England cannot be substantially reduced, until the bills, which swell the "other securities," or (under the new arrangements) the Bank of England's loans to the accepting houses, are paid off. Other transactions, unless they involve a drain of cash from the bank of England, merely affect the names to the credit of which the other deposits stand. At present the banks are showing excessive caution rather than the reverse. They must be careful in the future not to allow their swollen credits at the Bank of England to lead them to create, on the strength of these, too large a superstructure.

VI

All that we have said so far has been connected, directly or indirectly, with the international monetary position of London. We must now turn to the strictly domestic question of the internal currency.

The number of bank offices in Great Britain and Ireland is about 9,000. The amount of cash held by the banks, at the outbreak of war, in excess of normal till-money requirements, cannot, according to my estimate, have exceeded £20,000,000 and probably fell short of this. From their internal reserves, therefore, the banks could not strengthen their till-money by an average of more than about £2,000 per branch office. The total reserve of the Bank of England stood, when war began, at about £27,000,000, or, say, £3,000 per bank office. It has always been clear, therefore, that a serious run on the banks by their depositors could not possibly be met without the issue of an emergency paper currency.

As a matter of fact, the British depositor never showed any inclination to run on his bank. The newspapers told him that it would be foolish and unpatriotic to do so; and a combination of phlegm, habit and public spirit kept him to his normal courses. The very small reserves mentioned above, if they had been used boldly, would have been more than ample to meet all the extra demands for currency. The Post Office Savings Banks, it may be remarked, cheerfully remained open for withdrawals even during the prolonged Bank Holiday from August 1 to 7 without suffering to any important extent.

The joint stock banks, however, felt themselves to be in a weak position and were not willing to credit their depositors with as much good sense as the latter actually

showed. As early as July 31st the banks themselves began to run on the Bank of England, and with the utmost foolishness to make unnecessary difficulties about supplying applicants with gold. On July 31st and the following day there were queues of persons outside the Bank of England waiting to cash £5 notes which had been forced on them against their will by their bankers. The Bank of England of course changed these notes into sovereigns as quickly as was physically possible.

August 2 was a Sunday, and August 3 happened to be the day of the usual August Bank Holiday. It was clearly desirable in the circumstances to make arrangements for the issue of some form of emergency paper currency. For this purpose, therefore, and to allay the fears of the banks, the Bank Holiday was prolonged until August 7. When the banks reopened on that day, they had been protected against unreasonable demands on the part of their depositors — as it turned out, unnecessarily — by the general Moratorium Proclamation; and two forms of emergency paper currency had been authorized.

The first of these was of the old fashioned kind: the Bank of England was authorized to exceed its fixed fiduciary issue. The circulation of bank notes, that is to say, might exceed the gold held against them by more than the statutory maximum of £18,450,000. This measure is commonly described as a "Suspension of the Bank Act," altho it in no way permits the Bank to suspend specie payment, — the bank's obligation to redeem its notes in gold on demand remaining in full force.

As things turned out, the Bank of England never had occasion to avail itself of this permissive power. The fiduciary issue never exceeded £9,000,000 and was,

therefore, well within the normal maximum. The "suspension" was merely precautionary. It is to be noticed, however, that for the first time parliamentary authority for such a step was taken in advance. On former historic occasions the Prime Minister and the Chancellor of the Exchequer have promised the Governor of the Bank an act of indemnity. This time — whatever may have been the assurances given to the Governor privately during the first week of the crisis — a clause was inserted in the *Currency and Bank Notes Act, 1914*, as follows; — "The Governor and Company of the Bank of England and any persons concerned in the management of any Scottish or Irish bank of issue may, so far as temporarily authorized by the Treasury and subject to any conditions attached to that authority, issue notes in excess of any limit fixed by law."

The avoidance of an excess circulation of bank notes is mainly to be attributed, however, to the second form of emergency paper currency authorized. This was of an altogether novel type. £5 notes obviously cannot take the place of sovereigns as the chief circulating medium in the country. £1 and possibly 10s. notes were, therefore, necessary. Altho every one who had thought about these questions at all knew that £1 notes must be required in any severe crisis, no steps had been taken to print any such notes in advance, or even to decide who was to issue them or what form they were to take. The absence of any notes ready printed was the occasion of a very inconvenient delay. Further, when the notes appeared, they were printed on un-gummed postage stamp paper (of which alone a sufficient quantity existed suitably watermarked) and were of so rough an appearance (no part being engraved) that some amateurs amused themselves by forging one or two "as a memento." This unreadiness, however,

was a not altogether undesirable symptom. The minds of those in authority should be equipped beforehand, but it is not a bad thing that their measures should be improvised. Altho I was inclined to criticize the plan actually adopted when it was first adumbrated, I believe this plan, as it eventually worked out in practice, was better than what would probably have been devised, if, necessarily without reference to the precise circumstances of the moment, a plan had been arranged in advance by some Committee.

This plan was for an issue of £1 and 10s. notes, not by the Bank of England as was generally expected, but by the Treasury. The notes bore the signature, not of Sir John Nairne the Chief Cashier of the Bank of England, but of Sir John Bradbury the Permanent Secretary to the Treasury. They were declared unrestricted legal tender and were encashable for gold only at the head office of the Bank of England as the Government's agent. The public made no trouble about accepting the notes; at first indeed, through motives of curiosity and as a result of a newspaper campaign in their favor, the demand for them in place of sovereigns was in excess of what the printing presses could supply.

These notes are quite outside the Bank Act and have no relation to the Bank of England's note issue or reserve. They do not appear anywhere in the Bank of England's weekly returns and are the subject of a separate statement by the Treasury. Their issue obviated the necessity of any excess issue of notes by the Bank of England, altho as matters turned out the latter would have been small in any case, as the volume of Currency Notes only exceeded the Bank of England's reserve of unissued bank notes for a few days.

The most interesting feature, however, of these Currency Notes, as they are called, is their method of

regulation. By the *Currency and Bank Notes Act, 1914*, the Treasury is given extraordinarily wide powers. According to Clause 2, "Currency Notes may be issued to such persons and in such manner as the Treasury direct," and there are no specific rules whatever governing the reserve, if any, to be held against them. The actual course followed by the Treasury has been as follows.

In the first instance the Currency Notes were issued *as a loan* to the Scottish and Irish Banks of Issue, the joint stock banks, the Post Office Savings Banks, and the Trustee Savings Banks. The loans were at the rate of 5 per cent and were, in virtue of a provision in the act, regarded as a floating charge in priority to all other charges on the whole of the assets of these institutions, which were not required to deposit any specific security. The Treasury announced that they were prepared to issue these loans to the banks for an amount up to 20 per cent of their liabilities on current and deposit accounts.

Thus several important objects were served at the same time. The banks were reassured as to their capacity to meet any reasonable claims on the part of their depositors, their depositors were reassured by the appearance of a sufficient supply of serviceable legal tender money, the Bank of England's stock of gold was conserved, and the necessity of an excess issue of bank notes, with the ill effect of this on the appearance of the Bank return and of the Bank's reserve, was avoided.

The only danger lay in an excessive use of the new facilities. As a matter of fact the additional issues of currency were on a very moderate scale. The principal figures are given below. In addition, some new silver coinage (not to an important amount) was issued from

the Mint, and, for a short time pending this, postal orders were legal tender.

	Coin passing out of the Bank of Eng- land into the coun- try (+) or back to the Bank (-) £	Additional Issue of Bank of England Notes (+) or with- drawal (-) £	Additional issue of Currency Notes (+) £	Total £
July 30-Aug. 7	+8,311,000	+6,399,000	-	+14,610,000
Aug. 8-Aug. 19	+2,554,000	+1,081,000	+16,696,000	+20,431,000
Aug. 20-Aug. 26	-1,217,000	-1,615,000	+ 4,839,000	+ 2,007,000
Aug. 27-Sept. 2	-2,949,000	- 284,000	+ 3,621,000	+ 388,000
Sept. 3-Sept. 9	-1,545,000	- 66,000	+ 1,957,000	+ 346,000
Sept. 10-Sept. 16	+ 10,000	- 599,000	+ 304,000	- 285,000
	+5,164,000	+4,916,000	+27,417,000	+37,497,000

During the same period the net amount of gold passing into the Bank of England from abroad was £19,254,000.

Unfortunately it is impossible to distinguish between what was taken by the banks to strengthen their till-money at their 9,000 branches, and what went into the active circulation. The above figures are for the two taken together. It is probable, however, that a considerable part of the total issues of £37,500,000 remained with the banks, which naturally desired to have rather more cash in hand than usual. A part of the remaining issues were due to the large cash payments made by the War Office. The figures show that there can have been no significant amount of hoarding by private persons. Compared with the enormous issues of paper currency abroad, the above figures are very small.

As we have seen, the notes were issued in the first instance to the banks. But when a few days later they were put in funds at the Bank of England through the great volume of pre-moratorium bills discounted there under the Treasury's guarantee, they no longer had need of the Currency Note loans as well. Accordingly they paid off these loans by transferring credits at the Bank of England from their own names to the Public Deposits. The notes, which had been issued

to the public over the counters of the banks and the post offices, remained nevertheless in circulation.

The question soon arose, therefore, as to what, within their unfettered discretion, the Treasury was to do with these credits at the Bank of England. At the date of issue of the first Currency Note return, £11,400,000 had been repaid in this way and was left standing, for the moment, to the credit of what was termed the "Currency Note Redemption Account" at the Bank of England. By the date of the next return, a week later, £11,000,000 was represented by "Government Securities," *i. e.* had been taken in aid of the Exchequer balances; but, as the repayments by the banks had continued, there was still £5,900,000 to the credit of the Redemption Account at the Bank of England. During the next week the important step was taken of "ear-marking," *i. e.* removing from the Bank of England's reserve into a separate account, £3,000,000 in gold. On September 16 (the date of the latest return available at the time of writing) the balance sheet stood as follows:—

Notes outstanding, — £37,416,932.	Advances to Bankers.....	£1,514,200
	Advances to Post Office and Trustee Savings Banks.....	3,600,000
	Gold "earmarked" at the Bank.....	3,500,000
	"Government Securities".....	10,923,548
	Balance at Bank of England.....	7,879,186
		<hr/> £37,416,932

Probably more gold will be "earmarked" in the near future, and the fiduciary character of the issue gradually diminished.

VII

This completes a brief and necessarily incomplete account of the main factors influencing the relation of the Treasury and the Bank of England to the rest of the money market and the City of London generally.

Much detail has been omitted and, in particular, the difficulties of the stock exchange have received but cursory notice.

On the whole it may be fairly maintained that the financial system of the City has stood the shock to which it has been subjected. The errors which have been made have been due to over-timidity and a failure on the part of some, especially in the early days, to credit this system with the high degree of stability it has actually shown. The only real, substantial trouble has been the position of the bill market and the difficulties of the accepting houses. The main object of most of the other emergency measures has been to allay fears which, with more knowledge and more courage on the part of those who felt them, need not have arisen.

Those who were most at fault in this respect were, in the opinion of many (tho they have their defenders), the joint stock bankers. I must not pause now to consider the root causes of this, which are to be sought in the play of personalities and factors of historical growth. We wanted, in the first week of August, some one of the calibre of the late Mr. Pierpont Morgan to bully the bankers and tell them where their duty (and at the same time their interest) truly lay. However, this was a passing phase. The staunchness of the Bank of England, the traditions of which have needed amazingly little adaptation to fit them to new circumstances, and the practical good sense and sanity of the Treasury, prevented permanent harm from being done. We in Great Britain look forward to the financial future with confidence.

J. M. KEYNES.

KING'S COLLEGE, CAMBRIDGE, ENGLAND.

THE TRUST LEGISLATION OF 1914

SUMMARY

Introduction. Attitude of the parties in Congress; general character of the legislation, 72. — I. Unfair competitive methods, 74. — General declaration of illegality, 74. — Method of enforcement; discretion of trade commission, 75. — Price discrimination, 77. — Sales and leases conditioned on exclusive patronage, 80. — II. New provisions as to combinations in restraint of trade, 81. — Adequacy of the Sherman act without amendment, 82. — Intercorporate stockholdings, 82. — Interlocking directorates, 84. — Inadequacy of prohibition when community of stock interest is permitted, 85. — Provisions as to banks, 86. — Personal liability to penalties under anti-trust laws, 87. — Private suits, 88. — III. Mismanagement of railroads. Relations to banking, supply and construction companies. Misappropriation of funds, 89. — IV. The interstate trade commission, 90. — Powers of investigation; reports from corporations, 91. — Powers in enforcement and interpretation of law, 94. — Assistance of the commission to attorney general and courts; recommendations for future legislation, 95. — Beneficial results to be anticipated, 97.

Two important acts relating to trusts and corporations have just been adopted by Congress. They represent the fruition of the policy laid down in the last national platform of the Democratic party. They are "administration measures." In fact, it is doubtful whether without the persistent and forceful leadership of President Wilson the conflicting views in Congress could have been harmonized and the legislation passed in addition to the other important and long-debated measures which have occupied the attention of that body.

The "administration" bills regarding trusts and corporations were introduced into Congress at the very

beginning of 1914. They were under almost continuous consideration by the two houses and their committees for nine months before enactment. Many of the crudities of the original bills have been eliminated and in general the provisions as adopted are workable and understandable. In fact, if the destruction of trusts and the maintenance of competition be accepted as the proper policy, these acts must be approved for the most part as a valuable aid in carrying out that policy. The present writer has already expressed his opinion that this policy is on the whole the best for the American people.

As might be expected, there were efforts in Congress, particularly on the part of the Progressive party, to turn the trust legislation in the direction of regulation rather than prohibition. The Democrats, however, stood with practically united front for the policy of suppressing combinations and many Republicans joined with them.

The two acts are entitled respectively: "An Act to supplement existing laws against unlawful restraints and monopolies and for other purposes," and "An Act to create a federal trade commission, to define its powers and duties and for other purposes." We shall call them briefly the anti-trust act and the trade-commission act. The trade-commission bill, as it passed the House, was substantially confined to procedure, to machinery and methods for enforcing the laws. The Senate, however, inserted in this bill provisions with respect to unfair competitive methods, and these stand in the act as finally adopted, altho they more logically belong in the other act, which is chiefly concerned with prohibitions of unlawful practices.

It is perhaps needless to call attention to the fact that both these acts are, of necessity, limited to fields over

which the federal government has jurisdiction. Except certain provisions on national banks, they deal exclusively with interstate and foreign commerce.

The new prohibitions and definitions of unlawful practices in the two acts fall under three main heads: (1) those relating to competitive methods; (2) those relating to methods and forms of combination in restraint of trade; and (3) those relating to mismanagement of railroads.

I. UNFAIR COMPETITIVE METHODS

Of the provisions relating to methods of competition there are three — as to unfair methods in general, as to price discrimination, and as to restrictive sales and leases. The first named was not in either bill as it passed the House but was added by the Senate. Being comprehensive in character it would, if broadly interpreted, have rendered unnecessary the more specific provisions of the House bill regarding competitive methods and these were accordingly struck out by the Senate. In the conference committee of the two houses, however, they were restored, and they were finally adopted, tho with considerable amendment.

Section 5 of the trade-commission act provides simply “that unfair methods of competition in commerce are hereby declared unlawful.” This applies to individuals and firms as well as corporations. It adds no definitions or qualifications, leaving the determination of what constitutes unfair competition to the trade commission and the courts. In this respect the provision is similar to that of the interstate commerce act, which merely declares unreasonable railroad rates to be unlawful, leaving it to the interstate commerce commission and the courts to determine what rates are unreasonable.

In other words, Congress has established a standard and delegated to other agencies the sub-legislative power of applying or interpreting that standard.

There was much opposition to this general provision on the ground of its vagueness. It was stoutly maintained that no business man would know where he stood, what he could and what he could not do. The reply to this was that the methods of unfair competition are so numerous, so varied and so constantly changing that they cannot all be specifically set forth by Congress, and that a law which attempted to do so would require constant amendment. To avoid the well-founded objection that it would not do to punish a man for an offense indefinitely described, Congress wisely prescribed no penalties for initial violation of this section but provided a special and appropriate procedure for enforcement.

This procedure begins with action by the federal trade commission, a body whose composition and other powers are more fully described later. No court can take initial jurisdiction of an alleged offense against this section of the law; no prosecuting attorney bring an indictment. The commission is not even obliged to take action. The law declares that whenever the commission has reason to believe that any person or concern is using unfair methods of competition it shall proceed, "if it shall appear to the commission that a proceeding by it in respect thereof would be to the interest of the public." The language just quoted was incorporated in the bill in the conference and was not in it as first passed by the Senate. While in a sense the clause materially weakens the law, there can be little doubt of its propriety, at least as a temporary device. In its absence the commission would be obliged to take up every case of unfair competition, however unimpor-

tant and however little it actually tended to bring about monopoly. Instances of more or less unfair competition are simply innumerable in the business world, and it is vain for the government to attempt, under present conditions, to prevent them all. The trade commission would find its hands full indeed if it had to take up every complaint brought before it. The interference with business which would result from a multitude of proceedings on the part of the commission would probably more than offset the good accomplished by the actual suppression of more important and serious abuses.

The commission having decided to take up a case of unfair competition must give a hearing, after which it may issue an order requiring the discontinuance of the unfair practice. This order, however, is not immediately enforceable. If the person or concern to whom it is directed fails to obey, the commission must apply to the circuit court of appeals for its enforcement. It will be recalled that a similar procedure formerly prevailed in case of the failure of a railroad to obey an order of the interstate commerce commission, but by the amendment of 1906 a penalty was provided for failing to obey such an order and the railroad could escape the penalty only by taking the initiative in applying to the courts for relief. It is perhaps unfortunate that this amended procedure was not followed in the trade-commission act. The circuit court of appeals is given exclusive jurisdiction of cases relating to orders of the commission, thus avoiding the delay of appeals from lower courts.

The power of review given to the court with respect to orders of the trade commission is not without limits. The law provides that the findings of the commission as to the facts, if supported by testimony, shall be

conclusive, tho the court, if it deems necessary, may order additional evidence to be taken before the commission. In other words, the court is supposed to confine itself to questions of law. Doubtless, however, the courts will treat the question whether a particular practice in competition is unfair or otherwise as one of law rather than of fact, and a very wide field for judge-made legislation is thus opened.

No specific penalties appear in the trade-commission act for failure to obey an order of the court confirming an order of the commission with respect to unfair competition. However, the general provision contained in the anti-trust act as to penalties for contempt of court would apply. The maximum penalty for a natural person is \$1000 or six months' imprisonment.

In the anti-trust bill as it passed the House the practices of price discrimination and of restrictive sales and leases were made subject to penalties of fine and imprisonment. In the act as finally revised by the conference committee and passed these penalties were cut out, and the procedure for enforcing the prohibition of these practices was made similar to that for enforcing the general provision as to unfair methods of competition. There is this substantial difference, however, that in the anti-trust act the words " if it shall appear to the commission that a proceeding by it would be to the interest of the public " do not appear.

This elimination of penalties and other similar changes made in the conference were vigorously attacked on the floor both of House and Senate. It was charged that the " teeth " had been taken out of the bills. There is little reason to doubt, however, that even as to these more specifically defined practices it is much better, at least for the time being, that proceedings should begin only with the trade commission.

Its expert investigation of the facts should be much more satisfactory than could be expected in an ordinary criminal prosecution. Indeed, in all probability the law will be enforced more vigorously and effectively under this procedure than it could have been in any other way. It is a great mistake to suppose that the establishment of severe penalties for statute-made offenses, not recognized as offenses by the common practice of the business world, will forthwith assure their cessation.

This comprehensive provision regarding unfair competitive methods bids fair to inaugurate a marked improvement in business practices in the United States and to do much toward checking the growth of monopoly. In a certain sense the new provision adds little to the Sherman anti-trust act. It will be recalled that that act explicitly prohibits the monopolization of interstate or foreign trade or the attempt to monopolize it. Unfair competitive practices, if carried to such a degree as to justify their suppression by government, are in most cases, if not in all, attempts to monopolize. The most significant feature of the new legislation is the expert machinery for investigating the facts and for making at least the initial determination as to what constitutes an unfair practice injurious to the public interest.

As regards price discrimination, the anti-trust bill as it passed the House provided that any person who discriminated in price between different purchasers in the same or different sections "with the purpose or intent thereby to destroy or wrongfully injure the business of a competitor" was subject to penalty. Rejected by the Senate, restored and amended in conference, the section (§ 2 of the anti-trust act) omits the words just quoted and declares such discrimination

unlawful only where the effect " may be to substantially lessen competition or tend to create a monopoly." Moreover, to the unimportant and proper exceptions contained in the House bill is added the exception of discrimination " made in good faith to meet competition."

The wisdom of the first of these two changes can scarcely be doubted. The purpose of all competition, at least in a sense, is to destroy the business of competitors. Price discrimination is an all but universal practice and is not necessarily injurious or calculated to bring about a monopoly. The House bill if broadly interpreted would virtually have prohibited price discrimination altogether; it went too far. On the other hand, to permit price discrimination when made to " meet competition " may largely defeat the effectiveness of this section. The great corporation or combination that seeks to drive out a small competitor by price discrimination usually maintains that all it does is in good faith to meet competition. The Standard Oil Company, for example, may have the entire oil trade of a given town. It may be charging excessive prices there. A competitor seeking to gain a foothold enters the town and offers oil at a somewhat lower price, but still a fair price. The Standard meets this price, perhaps goes below it. The merchants being accustomed to deal with the Standard give little patronage to the competitor, who must cut again, and so the process goes on till prices are below cost. Meantime the Standard recoups itself for reduced prices in the town in question by advancing them elsewhere; the less fortunate competitor is driven out of business. It is doubtful whether under the phraseology of the new statute such tactics could be held unlawful, altho they certainly would tend to create monopoly.

It would appear, therefore, that the section with regard to price discrimination, so far from adding to the effectiveness of the general provision as to unfair competitive methods, may actually weaken it.

The Senate, as already indicated, struck out the provision of the House bill prohibiting in general terms the practice of restrictive sales and leases. It substituted, however, a somewhat similar provision relating only to patented articles. The Senate evidently feared lest the holder of a patent might claim by reason of the patent the right to do that which if done by others would be held unfair competition. The courts had already upheld restrictive sales and leases of patented articles. In conference, however, this section of the bill was again made general in application, explicit reference being made to both patented and unpatented articles. Section 3 of the anti-trust act declares it unlawful for any person to lease or sell goods or fix a price therefor on the condition or understanding that the lessee or purchaser shall not use or deal in the goods of a competitor. In conference was added the qualification "where the effect . . . may be to substantially lessen competition or tend to create a monopoly."

Again there can be no doubt of the wisdom of this qualifying clause. It is common in many branches of business to make sales or leases subject to the condition of exclusive patronage. The practice is by no means necessarily objectionable. It is substantially akin to the practice of establishing agencies which handle goods on commission or on a salary basis, and which are not allowed to handle similar goods of other sellers. One seller has one dealer to handle his goods exclusively, another competing seller another dealer and so on. Competition instead of being restrained may be made the more effective thereby. Often this may be the only

effective way of securing the distribution of the goods in a given locality. An unqualified prohibition of "tying contracts" would have been unfortunate. On the other hand, such contracts have been in some cases an important means of creating or protecting monopoly, and where that is the case they should be prohibited as the law now prohibits them.

It may be noted that there was a provision in the bill as it passed the House making it unlawful for mine operators and certain other concerns to refuse to sell their products to any responsible person. This was struck out by the Senate as of doubtful constitutionality and has not been restored.

II. NEW PROVISIONS ON COMBINATIONS IN RESTRAINT OF TRADE

We come now to consider those provisions of the new legislation which seek to clarify and extend the definitions of forbidden contracts and combinations in restraint of trade. These provisions, which are confined to the anti-trust act, relate chiefly to intercorporate stockholdings and to interlocking directorates.

If broadly interpreted, the Sherman anti-trust act without amendment could be made to reach every harmful, or potentially harmful, combination in restraint of interstate trade, however indirect its form. That act declares "every contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade" to be unlawful. The language is comprehensive in the extreme. To be sure, the Supreme Court has declared that the Sherman act must be interpreted in the "light of reason;" that there may be certain contracts or combinations which restrain trade in only a reasonable manner and which Congress did not intend

to make unlawful. President Taft and others have made it clear, however, that the Court did not in this statement refer to any contract or combination that would in any way injure the people, nor did it contemplate substituting its own judgment for that of Congress. Those restraints of trade which in the light of reason might be held lawful are only of a very limited class, such as were lawful at common law, and such as practically every one recognizes to be perfectly legitimate. There were members of Congress who proposed so to amend the Sherman act as to leave no discretion whatever to the courts. Practically, tho they would not have stated it in so many words, they would have had the law declare any restraint of trade, whether reasonable or unreasonable, to be unlawful. Better counsels prevailed, however, and no such provision appears in the new legislation.

The Sherman law being thus broad and comprehensive, the lawyer and the economist alike look with critical eye upon any attempt to add to its definitions. Has the new legislation strengthened our ability to prevent combinations in restraint of trade? Has it forbidden anything which ought not to be forbidden? Has it gone far enough, or gone too far?

Section 7 of the anti-trust act contains the provisions on intercorporate stockholdings. It declares, first, that no corporation shall acquire directly or indirectly any part of the stock of another corporation, where the effect "may be to substantially lessen competition" between the two corporations, "or to restrain such commerce . . . or to tend to create a monopoly." A similar provision is made with regard to holding companies; no corporation may acquire stocks in two or more corporations under the conditions above set forth. Common carriers are in-

cluded among the corporations covered. There are various exceptions to these broad prohibitions, but the only one of importance relates to stockholdings heretofore acquired. In other words, the act applies only to future acquisitions of stock and does not undertake to undo things already accomplished. Of course there is a clause to the effect that the act shall not make lawful anything theretofore prohibited by the anti-trust laws; intercorporate stockholdings which were unlawful under the Sherman act may still be attacked.

This section seems to add nothing of real value to the Sherman act. Moreover, if strictly construed, it prohibits that which should not be prohibited. Under the Sherman law the courts have already held intercorporate stockholdings unlawful when they result in unreasonable restraint of trade or in a tendency toward monopoly. Several of the great trust cases decided by the Supreme Court have turned on this point — the Standard Oil case, the Tobacco case, the Northern Securities case, the Union Pacific case and others. The new law, however, prohibits the acquisition of stocks not merely where competition in *the* trade — that is in the business concerned as a whole — is restrained; but also where merely the competition between the particular corporations directly concerned is lessened. A lessening of the competition between two corporations may increase the competition in the branch of industry or commerce in which they are engaged. One corporation may control, say, one-tenth of a given branch and another corporation one-twentieth. The acquisition of stock in one by the other may completely destroy competition between them, but may thereby render them more efficient in competing with other concerns.

Doubtless the exercise of discretion by prosecuting authorities and courts will result in weakening the

prohibitions of this section. In few cases perhaps will suits actually be brought and won by the government unless the public interest is threatened by the intercorporate stockholding. That, however, does not justify placing an economic and legal absurdity on the statute book. It is strange that Congress did not use, with respect to intercorporate stockholding, language similar to that used regarding interlocking directorates, which is far more closely guarded.

The administration anti-trust bill, as originally introduced in Congress, contained a provision with regard to interlocking directorates which, had it been enacted, would have been little less than disastrous. Virtually it prohibited the interlocking of directorates altogether, regardless of its effect. If two corporations, which together had only a small fraction of a given business, should have one common director, and if such corporations were natural competitors, the corporations would have been made subject to the penalties of the Sherman anti-trust law.

As it passed the House this absurd and drastic provision was toned down greatly, and in the Senate it was still farther shorn of claws by the omission of the penalty. In its final form the section (§ 8 of the anti-trust act) applies only to large corporations and only in cases where the elimination of competition by agreement between them would be unlawful. No person, it declares, shall, after two years from the passage of the act, be a director in any two or more corporations, any one of which has capital, surplus and undivided profits aggregating more than one million dollars, if such corporations have been theretofore competitors "so that the elimination of competition by agreement between them would constitute a violation of any of the provisions of any of the anti-trust laws." Nothing is

said about community of officers or employees other than directors. Banks and common carriers are exempted from this general provision; but there are special provisions regarding banks.

If the fact that two or more corporations had common directors did actually result in restraint of competition — not merely between the corporations concerned but in the trade generally — the courts could and probably would have held it unlawful under the Sherman act. In several decisions in which combinations based on intercorporate stock ownership have been dissolved, the courts have prohibited the segregated parts from having common officers or directors. The new act, however, goes farther and prohibits corporations from having the same directors even tho they do as a matter of fact actively compete, provided only that an agreement between the corporations to eliminate competition would be unlawful. In effect it makes the interlocking of directors in such case conclusive evidence of combination to restrain trade. Perhaps on the whole this is wise, for there is at least some tendency to eliminate competition where even a single individual is a director in two or more potentially competitive corporations.

The importance of this legislation, however, has been greatly exaggerated by its sponsors. The real evil is not community of directors but community of stock ownership. It will be easy enough for an individual or group who hold stock in several corporations to elect different men as directors who will act in harmony. The director is but the voice of those who elect him. Dummy directors are no new thing and they will doubtless be more numerous under this act than at present.

Apparently no one seriously proposed in Congress to restrict community of stock ownership by individuals. As I have pointed out elsewhere,¹ the courts have

¹ In this Journal, May, 1914, p. 406.

expressly tolerated community of interest in cases where it was almost self-evident that the result must be to prevent competition. They have seemed to consider it an inalienable right of the individual to hold what stocks he pleases. The "dissolution" of trusts by distributing the stocks of subsidiary companies *pro rata* among the stockholders of a controlling company is little more than a farce. The investigations of the Pujo committee emphasized the enormous extent and influence of community of stock interest as well as of interlocking directorates. But Congress seemed to be of the same mind as the courts with respect to the impossibility, or the unconstitutionality, of attempting to check the former. Some day our law makers will grow bolder; they will not permit any supposed right of private property to serve as a bulwark for monopoly.

The special provisions regarding interlocking directorates of banks, as passed by the House, were struck out by the Senate on the ground that the matter could best be provided for in connection with the banking laws. These provisions were, however, restored, with some modifications, by the conference committee and enacted into law. They prohibit interlocking of directors, officers or employees among large banks — those having deposits, capital, surplus and undivided profits aggregating more than five million dollars — wherever located. Moreover, subject to minor exceptions, no two banks, of whatever size, in a city of more than 200,000 inhabitants may have a common director, officer or employee. Naturally Congress has not undertaken to regulate private banks or those organized under state laws, but the act does apply to relations between a national bank on the one hand and a private or state bank on the other.

This provision as to banks is not qualified by any reference to the effect of the interlocking. It is not on its face directed against monopoly or restraint of competition among banks or in other business. The constitutionality of this provision cannot be questioned, since the national banks are creatures of the federal government. As to its justice and propriety there may be some doubt, and as to its effectiveness, for the reasons already mentioned above, still more doubt. The investigations of the Pujo committee have indeed made clear the immense power of concentrated banking interests. If that power can be weakened by this new legislation, most people will welcome it, even tho the law may incidentally prevent interlocking directorates among banks where no disadvantages would result therefrom.

It may be noted that there are no direct penalties for violation of the provisions as to intercorporate stockholding and interlocking directorates. The enforcement rests with the interstate trade commission by a procedure similar to that in the case of unfair competitive methods.

While, as already indicated, a good many teeth were drawn from the anti-trust bill during its progress through Congress, there remains one provision which distinctly increases the terrors of the law. Section 14 of the new act provides that whenever a corporation shall violate any of the penal provisions of any of the anti-trust laws, such violation shall be deemed to be also that of the individual directors, officers or agents who have authorized, ordered or done any of the acts constituting such violation. Upon conviction therefor any such director, officer or agent is subject to fine not exceeding \$5000 or imprisonment not exceeding one year or both.

As is well known, practically no imprisonments have heretofore resulted from the enforcement of the anti-trust laws. Most of the fines in criminal cases under them have been assessed against corporations. It is true that individuals could be punished for conspiracy under the Sherman act; but this new section will probably make it somewhat easier to punish them. There is no immediate likelihood, however, that the prisons will be overcrowded with trust offenders.

The anti-trust act provides (§ 4) that any person injured in business or property by reason of anything forbidden in the anti-trust laws may sue and recover three-fold damages. This merely extends the provision of the Sherman act so as to cover all anti-trust laws including the new act itself.

Section 5 provides that a final judgment or decree in any suit brought by the United States under the anti-trust laws, to the effect that the defendant has violated those laws, shall be *prima facie* evidence against such defendant in any suit or proceeding brought by any other party against him or it under the same laws. The House bill would have made such judgment or decree conclusive evidence, but the words *prima facie* were substituted in the Senate. No one can seriously doubt the propriety of this new provision. It is a needless burden upon a state, or upon a person injured by a violation of the anti-trust laws, to have to prove independently that the trust laws have been violated when the matter has already been determined in a government suit.

III. MISMANAGEMENT OF RAILROADS

The revelations of the Pujo investigation, of the New Haven investigation and of other recent investigations with reference to mismanagement of railroads and the mulcting of their stockholders have led to some drastic provisions, placed, perhaps somewhat illogically, in the anti-trust act.

Those investigations had shown that great banks had often made unreasonable gains from the financing of railroads; that dummy construction companies and equipment concerns in which railroad officers were interested had made fat profits at the expense of the stockholders of the road. The anti-trust bill, as it passed the House, simply prohibited interlocking of directors or officers between a railroad and a concern of the kind specified with which it did business. In the Senate, however, it was suggested that there might be cases where such relations were proper and desirable and that regulation rather than prohibition was called for. Substantially the provisions adopted by the Senate have now become law (§ 10). No common carrier may have dealings in securities or in supplies or may make contracts for construction or maintenance, to the amount of more than \$50,000 in any one year, with a concern in which any director or any of certain specified officers of the railroad is interested, except under the conditions specified in the act. These conditions are, virtually, competition, publicity and supervision by the interstate commerce commission. If the concern in question is the most favorable bidder under competitive bidding, the railroad may do business with it, but it must report the transactions to the interstate commerce commission in detail and the commission may investigate to see whether there has been

any abuse. Penalties are provided for violation of this section.

Another outcome of the recent revelations of railroad abuses is in section 9 of the anti-trust act, which declares that an officer or director of a common carrier who "embezzles, steals, abstracts or wilfully misapplies or wilfully permits to be misapplied" its money, securities or property is guilty of a felony. Such acts are, in general, already made crimes under the laws of the individual states, but it will perhaps be possible for the federal government to enforce them more effectively in the case of interstate carriers.

IV. THE FEDERAL TRADE COMMISSION

By all odds the most important feature of the new trust legislation is the creation of a federal trade commission. The commission is composed of five members, appointed by the President with the advice and consent of the Senate. Not more than three may be of the same political party — a provision which is of doubtful merit, as it really recognizes party lines in the administration of that which should be looked upon as wholly outside of those lines. The term of office is seven years and the salary \$10,000. The commission is in fact to be a body of similar dignity with the interstate commerce commission, tho the latter has seven members.

The commission is to take over the bureau of corporations and it is expected that the head of that bureau, Honorable Joseph E. Davies, will be a member of the commission. The expert employees of the bureau will be a useful nucleus for the force of the commission. It may be noted that the special experts and examiners which the commission is authorized to employ are

exempted from the classified civil service. It is a long step from a bureau of corporations headed by a single commissioner at a salary of \$5000 to a board of five members, each paid twice that salary. Useful as have been the investigations of the bureau, the public has a right to expect from this great new commission results of a far more important character.

The new act contains full provisions as to the investigatory powers of the trade commission. In substance it gives the commission complete power to investigate the affairs of all corporations engaged in interstate or foreign commerce, except common carriers and banks. The commission and its agents have access to the books and records of corporations and may require by subpoena the production of any or all of their papers. Witnesses may also be required to appear and testify. There are the usual provisions regarding testimony tending to incriminate its giver; he may not refuse to testify on that account, but is thereafter immune from prosecution.

The investigatory powers of the commission thus far mentioned are not materially greater than those heretofore possessed by the bureau of corporations. But the law creating that bureau made no definite provision for annual or special reports from corporations, and the general powers of investigation conferred on it have never been assumed to empower the bureau to demand such reports. The new law, however, explicitly authorizes the trade commission to require annual or special reports from any corporation engaged in interstate or foreign commerce except banks and common carriers. The commission is not compelled to call for reports from every corporation; it can determine what classes of corporations or what particular corporations must report and also determine the scope and character

of the information to be furnished. The commission may require the reports to be under oath.

These powers of the commission with respect to reports from corporations are approximately the same as those given to the interstate commerce commission with respect to railroads. The trade commission, however, lacks the power possessed by the latter to prescribe systems of accounts for corporations and to prevent them from keeping other accounts. It would doubtless be premature to give the trade commission that power. To devise satisfactory accounting systems for the multiplicity of corporations in different lines of business would take years. Obviously the accounts cannot be uniform to any such degree as those of railroads. For this reason the reports to be required from corporations will necessarily at first be less detailed than those made by railroads, and will probably not be so reliable, even tho made in entire good faith.

The new act prescribes penalties for failure to make reports required by the commission or for making false reports. But it goes much further. Any person who wilfully makes or causes to be made any false entry in any account or record kept by a corporation is declared guilty of a misdemeanor. So too is any one who neglects or fails to make full and correct entries in such accounts and records of all facts and transactions appertaining to the business of the corporation. This certainly is a drastic provision and will have to be interpreted with reasonable liberality. Finally, penalties are prescribed for altering or falsifying any documentary evidence of a corporation or for removing it out of the jurisdiction of the United States. The salutary character of these provisions is obvious.

The information secured from the reports of corporations to the trade commission will not merely be of

great aid to that commission itself in the exercise of its other powers, but if the more important data are published they will serve other most useful purposes. It has been a common contention that publicity alone will go far toward preventing excessive charges and other corporate abuses. The benefits of publicity in this direction have sometimes been exaggerated, but they are important. If the reports show that corporations in a given line of business are making unusually large profits competition will be the more likely to enter the field and bring down prices.

Under the new act the trade commission itself decides what information obtained by it — by whatever means obtained — shall be made public, save only that the law prohibits the commission from publishing trade secrets and names of customers. The term "trade secrets" will undoubtedly be taken to mean merely secrets as to processes of production and the like. The general language of the law seems to imply the expectation that a great deal of information secured by the commission will be made public. It is sincerely to be hoped that the trade commission will see fit to make public all the important information it secures through the system of reports or in other ways, just as the interstate commerce commission does. It will be recalled that under the law creating the bureau of corporations that bureau itself has no power to determine what information secured by it shall be made public, the determination resting with the President. As a matter of fact the President, presumably at the instance of the bureau, has withheld much information regarding individual corporations which would have been of material value to the public. A few years ago sentiment in the business world was scarcely ripe for such a measure of publicity as may properly be de-

manded today. In fact great corporations are more and more on their own initiative adopting the policy of making full reports to the public. The injury to a business concern from the disclosure of its affairs is seldom serious, and any concern whose business is so great as to affect materially the welfare of masses of people has no right to consider itself a private institution.

Reference has already been made to the important powers of the interstate trade commission as to the enforcement of the new provisions of the anti-trust legislation. The general prohibition of unfair competitive methods, that of price discrimination and that of restrictive sales and leases are enforceable only through the commission. The same is true of the prohibitions with regard to intercorporate stock ownership and interlocking directorates, — except as they relate to banks and common carriers, where other federal boards have jurisdiction. This is clearly as it should be, at least for the time being. The commission through its expert investigation will be able soon to amass a great body of information regarding competitive methods and methods of combination. Such information is largely lacking at the present time. On the basis of such information the commission should develop a sounder judgment regarding these matters than could be expected of prosecuting officers or judges.

In addition to its special powers in the enforcement of the provisions mentioned, the commission is required to aid in the enforcement of the anti-trust laws generally (§ 6). On the direction of the President or either house of Congress it has the power and duty to investigate and report the facts relating to alleged violation of the anti-trust acts by any corporation. Upon the application of the attorney general it must investigate and make recommendations in order that a corporation

alleged to be violating the anti-trust acts " may thereafter maintain its organization, management and conduct of business in accordance with law." It is well known that in a number of instances in recent years corporations and combinations have, without suit by the government, changed their organization or methods of business, with a view to conforming to the Sherman act. In such cases they have usually consulted the attorney general and secured his approval. Thus to readjust business without appeal to the courts is evidently desirable. It saves expense and friction. It is obvious, however, that an expert body like the trade commission will be in a much better position than the attorney general to suggest the proper changes in practices and in organization.

Again, the new law provides (§ 7) that the trade commission may be called upon for assistance and advice in connection with the actual conduct of a suit in equity brought by the government under the anti-trust acts. The court may upon the conclusion of the testimony in such a suit, if it is of the opinion that a decree should be made against the defendants, " refer said suit to the commission, as a master in chancery, to ascertain and report an appropriate form of decree therein." The court, of course, can reject such a report in whole or in part. It is very likely not only that the courts will in fact often call upon the commission but that they will usually follow its suggestions. This again is a provision of much importance. Had the recommendations of an expert body such as the trade commission been before the court in connection with the dissolution of the Standard Oil Company, for example, it is scarcely conceivable that that dissolution should have taken a form so ineffective as it did. How to secure a satisfactory dissolution of a trust is an

immensely difficult economic problem, rather than a legal problem. A plan must be devised which will at the same time effectively restore competition and avoid hardship to the owners or stockholders of the combination and undue shock to the business world.

Finally, the trade commission under the new law (§ 6) may on its own initiative investigate the manner in which any decree against a defendant in a suit brought by the government to restrain violation of the anti-trust acts is being carried out. Upon the application of the attorney general it is its duty to make such an investigation. At present it too often happens that when a court has ordered the dissolution of a combination, or issued some other order for the enforcement of the anti-trust laws, very little attention is given by any one to the question whether the decree is actually obeyed. The commission should be able to render a valuable service in this direction.

The trade commission is also directed to report to Congress from time to time its recommendations for further legislation regarding corporations, combinations and trade practices. There is every reason to believe that the commission will have a great and beneficial influence upon future legislation. If Congress had gone no farther at the present session than to create such a commission, give it powers of investigation and call upon it for recommendations regarding future action, the trust legislation would have been well worth while. The ordinary methods of inquiry on which Congress bases legislation are by no means adequate to a problem as vast and complex as the trust problem. The time is not yet ripe for the enactment by Congress of a mass of details regarding combinations, corporations and competitive methods. In fact, a good deal even of the legislation actually adopted

at this session has been, as already shown, a trifle immature. It is better to proceed slowly and surely than to make blunders.

The creation of the trade commission is, therefore, a great forward step. All parties in Congress were alike in favoring such a commission. Public sentiment throughout the country demanded it. The trusts and corporations were in general glad to see it established. An inquiry sent out by the National Chamber of Commerce to its constituents, consisting of trade organizations throughout the country, elicited an almost unanimous recommendation of such a commission. It matters not so much what its particular powers are at the outset, or what are for the time being the provisions of law as to trusts, combinations and trade practices. The important thing is to have a body of proper dignity devoted to the expert consideration of these great problems. A great responsibility rests upon the President in the selection of the first members of the new commission, and every one awaits his action with profound interest.¹

E. DANA DURAND.

UNIVERSITY OF MINNESOTA.

¹ It is not necessary here to discuss the important new provisions of the anti-trust act with reference to labor or those with reference to the use of the injunction and the procedure for contempt of court. While the latter will have some bearing on cases against trusts and corporations, their chief significance is with respect to labor cases.

WAGES BOARDS IN AUSTRALIA:¹

I. VICTORIA

SUMMARY

Introduction: methods of wage regulation, 98. — 1. The anti-sweating movement in Victoria, 101. — 2. Origin and introduction of wages boards, 107. — Parliamentary history of the minimum wage bill, 110. — Main features of the act of 1896, 120. — 3. Extension of the system and its struggle for existence, 122. — Work of the first boards, 123. — Act of 1900, 126. — Crisis of 1902, 131. — Report of the Royal Commission in 1903, 139. — The system made permanent, 143. — 4. Growing popularity of the boards, 144.

Introduction. — Methods of Wage Regulation

GOVERNMENTAL regulation of wages in Australia and New Zealand has taken place by one or more of the following methods: (1) The legal prohibition of the payment of a lower wage to a given class of workers than that named in the statute; (2) the legal prohibition of the payment of lower wages or rates of pay in a given trade than those agreed to in a compulsory conference of employers and employees in that trade, usually known as a wages board; (3) the legal prohibition of the payment of lower wages or rates of pay in a given trade or industry than those named in an order of a compulsory arbitration court after the hearing of an industrial dispute.

The first method, altho found in the legislation of New Zealand and all the Australian states, has for us no very great significance. Almost everywhere it was intended to put an end to a practice which had grown

¹ Expansion of lectures delivered at Harvard University, November, 1914.

up in the sweated trades of taking on youthful workers under the pretense of teaching them a trade and paying them no wages during their apprenticeship. When, after some weeks or months, the parents suggested that their children were now capable of earning wages, the "learners" were dismissed and new ones employed. The statutory minimum wage which has been established to put an end to this practice is half-a-crown (61 cents) a week in Victoria, 4 shillings (97 cents) a week in South Australia and New South Wales, and 5 shillings (\$1.21½) a week in New Zealand, Queensland and Tasmania. In the last named states an increase of two and a half or three shillings must be made each year until a minimum wage of at least 20 shillings (\$4.86) a week is paid. Generally speaking, these laws apply to factories only, tho there are some exceptions.¹

Interesting and valuable as these laws may be in accomplishing the purpose for which they were enacted, it is not they which are usually thought of when one speaks of governmental regulations of wages in Australia.

Regulation of wages by the arbitration courts is an important — perhaps the most important — method known to the people of Australia or New Zealand and it seems to be slowly gaining ground in those countries. But compulsory arbitration has a far wider range of activities than the regulation of wages, altho it is doubtful if its influence is in any respect so great as that of a regulator of wages and working conditions. It was not as a means of regulation of wages in any large sense, however, but as a means of settling industrial disputes that compulsory arbitration was thought of by those persons who were responsible for the beginnings of such legislation. The compulsory arbitration act of 1894 in

¹ Schachner, *Die Soziale Frage in Australien und Neuseeland* (Jena, 1911), p. 144.

New Zealand was the first measure of this sort and the control over wage scales which it authorized was supposed to be purely incidental to its main purpose. One of its supporters in the upper house of Parliament, who has since become its severest critic, said six years after the passage of the act that he found himself "driven by candor to admit that the system is not in any sense what it purports and was intended to be — a means of settling industrial disputes — and is rather a system for the regulation of the industries of the colony by means of ordinances (misnamed 'awards') issued by a court of law."¹

It does not seem practicable to single out the function of wage regulation from all the other numerous and important activities of the arbitration courts for separate treatment and it is not within the scope of these lectures to cover the entire subject of the regulation of industry in Australasia. Accordingly we shall confine ourselves to the work of the Australian wages boards. A further justification for this limitation is found in the fact that while wage regulation by means of such boards is a subject of experimentation and keen political controversy in our own country at the present time, and we may hope that a review of Australian experience may throw some light on the probable results of such experiments as we are making, compulsory arbitration is hardly more than an academic question with us at present, if for no other reason than that it could probably not be introduced here without amendments to our state and federal constitutions.

The revision of the Factories Act in Victoria in 1896 for the first time introduced into legislation the method of regulating wages by special boards. Altho con-

¹ J. MacGregor, *Industrial Arbitration in New Zealand* (Dunedin, 1901), prefatory note.

fessedly intended by its mover and supporters as a means of restricting the freedom of contract in the selling of labor under certain circumstances and conditions, it was not then contemplated that the wages boards system would become a general method of wage regulation. It was intended to have only a very limited use, for the purpose of checking the abuses which had grown up in a few highly sweated trades. For this reason we find that the most stubborn resistance which the new system encountered came not at the time of its introduction, but several years later, when the wages boards system was being extended to the non-sweated trades.

1. The Anti-Sweating Movement in Victoria

For years prior to the passage of the Factories Act of 1896, Victorian reformers and legislators had been grappling with the problem of "sweating" in various industries in Melbourne. The decline of alluvial gold-mining, which had brought such a rush of colonists to Victoria from 1850 to 1860, caused a steady drift of population to Melbourne, the only important city of the colony. Manufacturing industries prospered for a time, partly due to the cheap labor supply and partly to the protective tariff which Victoria maintained in face of the free trade tendencies of the other colonies. Speculation in land and heavy borrowing for public works helped to maintain an outward appearance of prosperity during the 'eighties. Yet those who looked below the surface saw that all was not well. *The Age*, an influential newspaper of Melbourne and the chief organ of protectionism in Australia, had begun to issue warnings as early as 1880 that certain classes of laborers in the colony were being exploited.¹

¹ W. P. Reeves, *State Experiments in Australia and New Zealand* (1902), vol. ii, pp. 4-5.

The Victorian Factories Act of 1873, the first of the kind to be enacted by an Australasian legislature, did not apply to places in which less than ten persons were employed, and its administration was left to municipal councils which usually failed to act. A Royal Commission appointed in 1882 to inquire into the condition of employees in shops and the operation of the Act of 1873-74 found that a practice had grown up in the clothing and boot trades of giving out work to be done in the homes of the workers, and that this practice — usually known as "sweating" — had resulted in low wages, long hours and unsanitary dwelling places. It was also found that the practice was causing the displacement of skilled male labor by overworked and underpaid female labor. The Commission recommended among other things that "the sweating system be prohibited" and that "employees be prohibited from taking work home from the factories."¹ Altho these radical recommendations were not accepted, Parliament, stimulated in part by a strike of women in the clothing trades in 1882 and by the urging of the inter-colonial trade union convention which met at Melbourne in 1884 and which re-echoed the findings and recommendations of the Royal Commission, made some useful amendments to the Factories and Shops Act in 1885, which, however, did little to improve the conditions of the home workers.

For several years there was a lull in the agitation but, as conditions grew worse rather than better, in 1890 *The Age* renewed its attack on the sweating system and in vivid language portrayed the long hours and low wages of women employed to manufacture in their own homes the garments put out by the large clothing shops.

¹ Report of the Royal Commission on Employees in Shops and the Operation of the Victorian Factory Act, 1874 (Melbourne, 1884), pp. xi-xii.

"It is abundantly certain," said the writer, "that sweating — mean, frowsy, depraved and pitiful — is carried on in Melbourne to a degree hardly less horrible than in London."¹ A public meeting followed which was participated in by some of the most prominent and public-spirited citizens of Melbourne. Strong resolutions against sweating were adopted and Parliament was urged to take action in the matter. The Chief Inspector of Factories issued a report this year on the "Sweating System," which gave official confirmation of the stories of low wages and long hours that had been related by private investigators.²

Parliament made some further effort to improve the inspection and regulation of factories at this time by enacting the Factories Act of 1890. Chinese competition was the chief evil aimed at by this legislation. Tho the act of 1890 introduced some administrative reforms, it did little or nothing to prevent the evils of home work. It was not so much that Parliament was unwilling to act but that no practical solution of the difficulty had been suggested. Some reformers demanded the prohibition of the practice of giving out work to be done outside of factories, but this seemed to Parliament too drastic a remedy.

In 1893 a parliamentary board was appointed "to inquire and report as to the workings of the Factories and Shops Act, 1890, with regard to the alleged existence of the practice known as 'sweating' and the alleged insanitary condition of factories and work-rooms." The use of the word "alleged" in the resolution of inquiry doubtless correctly sets forth the skepticism which many legislators and officials then

¹ Quoted by W. P. Reeves in *State Experiments in Australia and New Zealand*, II, p. 7.

² Report of the Chief Inspector of Factories on the "Sweating System" in Connection with the Clothing Trade in the Colony of Victoria (Melbourne, 1890).

felt with regard to the representations made by the newspapers and the reformers.

The results of the investigations made by the parliamentary Board of Inquiry during the years 1893-95 showed clearly enough, however, that the reports as to the sweating of the workers had not been exaggerated. Testimony taken by the Board and evidence submitted by the factory inspectors showed, for example, that two shirt-makers worked from 12 to 13 hours a day in order to earn between them 10 s. (\$2.43) a week; an entire family, consisting of husband, wife and two sons, made knickers for 10 d. (20 cents) a pair and earned collectively 7 s. 6 d. (\$1.82) a day; a woman who made tennis shirts, including machining, button-holing, finishing, pressing and sewing on collar, pocket and ticket, for 2 s. 6 d. (79 cents) a dozen, was able to make from four to five dozen a week, oftentimes working till midnight to do so; a tweed trousers' maker, who was an expert tailoress, worked from 13 to 14 hours per day and sometimes on Sundays, in order to earn 12 s. (\$2.92) a week, at 6½ d. (13 cents) a pair; another woman, aided at times by her invalid sister, made childrens' pinafores at 1½ d. (2½ cents) apiece, and her wage book for a series of six consecutive weeks showed weekly earnings of from 8 s. 1½ d. (\$1.97) to 11 s. 7 d. (\$2.81), while for every 7 s. (\$1.70) earned she was obliged to expend 6 d. (12 cents) for sewing thread.¹

Other evidence equally convincing as to the need of reform was furnished by other witnesses. Especially illuminating was the statement of a woman who had to support an invalid husband and several children. She was an expert tailoress and had worked at the trade in London since she was a child. The lowest price at

¹ Minutes of Evidence, Factories Act Inquiry Board, pp. 71, 77, 80, and Report by Miss Cuthbertson, Female Inspector, in Report of Chief Inspector of Factories, 1895, p. 17.

which she made vests for the London sweaters was 8 d. (16 cents) apiece, but in Melbourne she was paid for the same work only 6 d. (12 cents) apiece altho the log established by the tailoresses' union for this work was 2 s. 9 d. (67 cents).¹

The evidence submitted to the parliamentary board showed further that the competition of those manufacturers who gave out work to be done in the homes was forcing reputable firms who carried on their work in factories and who were willing to pay the log prices fixed by the tailoresses' union to suspend their factory operations and put out their work through the sweaters. The Report of the Chief Inspector of Factories showed that the number of factories had decreased from 2,548 in 1891 to 2,243 in 1893, and the number of workers in factories from 47,813 in 1890 to 34,268 in 1894.² Part of this loss was attributable to the industrial depression in the colony, but nevertheless it was shown that the sweating went on in good as well as in bad times.³ The tailoresses' union, composed entirely of factory workers, which had had a membership of nearly two thousand, numbered at the time of the investigation only thirteen members, altho the dues had been made as low as 2 d. (4 cents) per week.⁴

Another evil brought to light by the investigation was the abuse of the apprenticeship system in the clothing trade, whereby children were taken on under the pretense of teaching them a trade and were employed at little or no wages at some one process of manufacture so that they had no opportunity to learn the trade.⁵

¹ Quoted from reports of Anti-Sweating League in *Austral Light*, October, 1896. (Manuscript copy in office of Chief Inspector of Factories in Melbourne.)

² Report of Chief Inspector for 1895, p. 4.

³ Minutes of Evidence, Factories Act Inquiry Board, p. 80.

⁴ *Ibid.*, p. 15.

⁵ First Progress Report, Factories Act Inquiry Board (1893), pp. 23-24.

Still another difficulty was Chinese competition in the furniture trade, which had cut down the number of European cabinet makers from 200 or more to about 60 or 70, and their wages from 9 s. (\$2.19) a day to less than half that amount.¹ The competition was so keen that the Chinese, in spite of their low standards of living, were barely able to earn a subsistence and had only a short time before struck against a twenty per cent reduction in their wages.²

The Factories Act Inquiry Board made many recommendations of legislation intended to improve the condition of factory workers and to regulate the giving out of work to be done outside the factory. Altho most of these recommendations were accepted by Parliament and were incorporated into the Factories Act of 1896,³ none of them seemed to promise an effective remedy against sweating. Neither colonial experience nor that of the mother country pointed the way to a solution of the difficulty. It was feared that the entire prohibition of home work would cause more suffering than it would cure. To regulate the hours of labor for such work would require such a force of inspectors as to seem impracticable.

The things on which the reformers laid chief emphasis were legislation requiring home workers to take out a license, in order that the inspectors might the more readily supervise homes used as working places, and the requirement that ready-made clothing should bear the name and address of the worker so that the would-be purchaser might know that it was the product of the sweaters' victims. These appeared but feeble weapons

¹ Second Progress Report, Factories Act Inquiry Board (1894), pp. 5, 8.

² *Ibid.*, pp. 7-8.

³ Mr. Peacock, who introduced the measure, said that "the greater portion of the recommendations of the Board had been incorporated in the bill." Speech on Second Reading, Oct. 17, 1895, *Victorian Parliamentary Debates*, vol. 78, p. 2635.

for so formidable an enemy as the sweating system, but even these suggestions met with bitter opposition on the part of the manufacturers and their supporters in Parliament.

2. The Origin and Introduction of Wages Boards

Two witnesses who appeared before the Factories Act Inquiry Board of 1893-94 to give testimony concerning the sweating system offered suggestions which pointed the way towards the solution of the sweating problem which was finally adopted. One of these witnesses was Rev. A. R. Edgar, pastor of the Wesleyan Church, who had interested himself in the problem of the sweated workers in the very first week of his pastorate in Melbourne and whose church was one of the important centers of the agitation against sweating. Mr. Edgar suggested that a remedy for the sweating evil might be found in fixing the wages of the workers by legislative enactment.¹ Just how this was to be done does not appear from the reports of the hearings, but Mr. Edgar informed me that he had some such idea as the wages boards in mind, even tho perhaps the idea had not taken definite form. A clearer suggestion of the wages boards is found in the testimony of Mr. Charles E. Glass, an importer and vendor of sewing machines, whose business brought him into close contact with the home workers; in whose welfare he seems to have taken a strong interest. Mr. Glass recommended to the Board that a minimum rate of wages for workers in any of the sweated trades be established by a committee appointed by the Minister on the application of a section of workers in that trade.²

¹ Minutes of Evidence offered before Factories Inquiry Board, p. 74.

² Minutes of Evidence, Factories Act Inquiry Board, p. 82.

The pertinency of these suggestions seems not to have been appreciated by the members of the Inquiry Board, or perhaps they did not believe them to be practicable. At least they are not referred to in their report and recommendations, nor do they appear to have exercised any influence on subsequent legislation.

The author of the wages boards plan which was incorporated in the Factories Act of 1896 was Mr. (now Sir) Alexander Peacock, who had recently become Chief Secretary of the Colony in the Turner ministry. The agitation against sweating was at its height, and Mr. Peacock interested himself in the matter and personally visited the homes of many of the out-workers. "I found," he says, "that these people were working excessive hours at grossly sweated rates of pay in poor and cheerless homes and generally under wretched conditions."¹

Sir Alexander has told me that he and the Chief Inspector of Factories, Mr. Harrison Ord, held many conferences in which they endeavored to find a practicable remedy for the sweating evil. Tho familiar with the proceedings of the Factories Act Inquiry Board, Mr. Peacock does not remember to have heard of the suggestions made by Messrs. Edgar and Glass. The plan which was adopted was suggested to Mr. Peacock by his own experience when, as a youth, he had been a clerk in a mining company's office near Ballarat. The owner of the mining property, a rough man who had himself been a miner, had announced a reduction of 3 s. (73 cents) a week in the wages of his men, who offered bitter opposition to the reduction and asked for a conference with their employer. At this conference young Peacock acted as secretary. The employer

¹ Statement by Sir Alexander Peacock in unpublished manuscript in office of Chief Inspector of Factories of Victoria.

argued that as there had been a decline in the prosperity of the business, the men ought to be willing to share in the reduction of profits. The men replied to this by pointing out the way in which they were obliged to live and successfully appealed to the employer's knowledge, as an old time comrade, of what effect a reduction of three shillings a week would have on their standard of living. The recollection of this crude experiment in collective bargaining led Mr. Peacock to think that what had been done in mining might be done in other industries by compelling employers to meet with their employees to arrange wage scales. Mr. Ord gave his approval to the plan, which, stated in Sir Alexander's own words, was as follows:

The idea was to bring together an equal number of employers and employees, not exceeding ten¹ on each Board, to provide these ten representatives with a Chairman and to give to the Boards so constituted power to fix the rates to be paid, either wage or piece work as the Board thought fit, for any work done in connection with the trades subject to such Special Board's jurisdiction.²

The agitation against sweating had resulted in the formation in Melbourne on July 23, 1895, of the National Anti-Sweating League of Victoria, which elected officers, established permanent quarters and henceforth directed the movement to abolish sweating. A committee of this organization was formed to draft legislation and in the offices of the League were drafted the provisions of the bill which later became the Factories Act of 1896.³ In it were incorporated Mr. Peacock's plan for Special Boards to establish minimum wages in the sweated trades.

¹ As originally drafted and introduced the bill provided for only five persons, two employers, two employees and a chairman elected by them.

² Statement in manuscript in Chief Factory Inspector's office in Melbourne.

³ Statement from The Tocsin, June 19, 1903, on the back of the membership card of the National Anti-Sweating League.

The bill carrying the wages boards provisions was first submitted at the parliamentary session of 1895. Section 14 of this bill provided that the Government might appoint within any district a board of five persons, composed of two employers and two employees in the trade and a fifth person elected by them to fix the minimum wages for all persons "under the age of 16 years or any woman or girl" engaged either within or without a factory in the manufacture of wearing apparel including boots and shoes. Mr. Peacock, who introduced the bill in the Assembly, described the work of the proposed board in the clothing trade as follows:

This board after getting the necessary information will fix the prices that are to be paid for certain articles enumerated. At present this provision is to be confined to three or four articles, — women's blouses, men's shirts and slops, and women's under-clothing. It is not proposed to fix the rates of pay for other articles as yet.¹

When the bill was under discussion in the committee of the whole, the Government was strongly urged by several members of the Assembly² to permit the section relating to the wages boards to be amended by striking out the words "under the age of sixteen years, or any woman or girl," in order that the provisions relating to the minimum wage might be established for *all* workers in the clothing trade, but Mr. Peacock said he regretted he could not see his way to adopt the amendment. He said:

The present Factories Act was placed on the statute-book primarily with the object of protecting the weaker sections of the community — women and young persons under sixteen years of age. The bill was designed to extend that principle, and the Government, after consideration, could not see their way clear to bring male adult labor under the clause.³

¹ Speech on Second Reading, *Parl. Debates*, vol. 78, pp. 2646-2649, 3143.

² *Ibid.*, pp. 3144-3148.

³ *Ibid.*, pp. 3144-3145.

In spite of Mr. Peacock's opposition to the amendment, the committee decided to strike out the phrase which limited the boards' determination to the wages of women and children. The feeling was expressed that if a minimum wage were fixed for women and children and not for men "the result would be that the work would ultimately be done much cheaper by the men under a sweating system, and women and children would get no work at all."¹ One member (Mr. Trenwith) spoke prophetically when he said that if the principle of the minimum wage were made applicable to men as well as to women and children "the board which would fix the minimum wage would be a perpetual board of arbitration and would do away with harassing, vexatious and painful strikes."²

The motion to strike out the words which limited the minimum wage to women and children carried in the committee by a vote of 49 to 20, Mr. Peacock voting in the negative.³

Other amendments made to the bill while it was still in the Assembly were the addition of the furniture manufacture to the trades for which boards were provided,⁴ and the addition of a section which provided that "no person whosoever, unless in receipt of a weekly wage of at least 2 s. 6 d. (61 cents) shall be employed in any factory or work-room." This latter amendment was intended to correct an abuse already mentioned, viz., the employment of young persons as learners or apprentices without paying them any wages and without teaching them any trade. Legislation of this sort had been strongly urged by Mr. Ord who had discovered that during the year 1895 not less than 349 girls had

¹ *Parl. Debates*, vol. 78, p. 3146.

² *Ibid.*, p. 3147.

³ *Ibid.*, vol. 79, p. 3150.

⁴ Proposed by Mr. McColl, *Parl. Debates*, vol. 79, pp. 3203-3204.

been employed without wages in the dress-making trade alone.¹

The bill as passed by the Legislative Assembly (the lower house) provided: (1) "one board for each district for the clothing and the boot trades to fix the lowest prices for work; (2) one board for each district for the furniture trade, to fix the lowest prices for work; (3) one board for each district to fix the number of apprentices and improvers; (4) one board for each district to fix the hours of labor."² When the bill reached the Legislative Council (the upper chamber) this complicated machinery was much simplified by providing one board in each of the trades for the entire colony and giving to this board the authority to fix for its own trade not only the prices to be paid for work but also the proportion of apprentices and improvers and the hours of work for women and children only.

The bill as amended failed of passage at this session of Parliament. This was due not so much to the provisions creating the special boards as it was to the failure of the two houses to agree to the proposal to require workers outside of factories to secure permits from the Factory Inspector's office for carrying on manufacturing operations in their homes, and to a disagreement in regard to payment for overtime work. The bill was therefore retained by the Assembly and further action on it was postponed until the following session.³

In the lengthy debates on the bill which took place in both houses much less attention was directed to the sections relating to wages boards than was given to the question as to whether permits should be required for the out-workers. Nevertheless the wages boards received a fair amount of discussion. The proposal to

¹ Report of the Chief Inspector of Factories for 1895, pp. 21-22.

² Parl. Debates, vol. 80, p. 5479.

³ Ibid., p. 6293.

establish them was frankly admitted by Mr. Peacock to be a departure in industrial legislation.¹ He defended it on the ground that it would abolish sweating since manufacturers who had their work done outside the factories would have to raise the wages paid to their workers.

Viewed in the light of the revelations made by the various investigating commissions and factory inspectors, it is clear that the framers and supporters of the bill believed that inasmuch as the low rates of pay given to out-workers had caused many factories to close, the wages boards by bringing about higher wages would cause a reopening of the factories.² It was with the view of accomplishing this end that the friends of the bill in the Assembly insisted so strenuously on the retention of the clause which required a permit from the Factory Inspector before manufacturing work could be carried on in the home. This was properly called the "crux of the whole measure."

The bill itself was not made a party measure in either house. Some of the strongest support for the wages boards came from the Opposition. One of the members from that side of the Assembly³ said that this section was "one of the best, if not the best in the Bill," and that he was in "thoro accord" with its provisions and believed that they would be "a means of doing away with sweating almost altogether." On the other hand, there were the advocates of *laissez-faire* who warned their colleagues that "any interference with the relations of private employers and their employees, however well-intentioned that interference might be, would do more mischief than good" and that if Parlia-

¹ Speech on Second Reading, Parl. Debates, vol. 78, p. 2648.

² One of the supporters of the bill (Mr. McColl) said: "The Chief Secretary (Mr. Peacock) wants to get every one into factories." Parl. Debates, vol. 78, p. 2653.

³ Mr. McColl, Parl. Debates, vol. 78, p. 2654-2655.

ment attempted to compel employers in the clothing trade to pay remunerative rates of wages to the employees it would destroy the trade altogether and the employees "would not get any wages at all."¹

To this argument Mr. Alfred Deakin, then as now one of Australia's leading statesmen, pointedly replied that while it was true that "the limit of wages must be affected by the prices of the products of that labor," this did not settle the entire question at issue. The people still needed to be shown that an undue share of the product did not go to the middleman or other trades. But, he continued:

Supposing that the worst came to the worst and these boards when appointed were obliged to fix a starvation rate of wages as the only rate which the clothing trade could afford to pay, it would be something for them to know that without any undue profit-taking by middlemen, this trade could only be carried on at the starvation point.²

Mr. Deakin later on drew an interesting analogy between the regulation of wages by means of these boards and that by the craft guilds in mediaeval times,³ and with something like prophetic insight he predicted that "one day or other those boards would be established in every trade," and that they "would furnish the solution of a number of problems which were perplexing this and every other legislature."

When the bill reached the Legislative Council it was subjected to fierce criticisms by the members who represented in large part the employing interests in the colony. Altho criticism was directed chiefly against the clause which required permits for workers outside

¹ Mr. Murray-Smith in *Parl. Debates*, vol. 78, p. 3148.

² *Parl. Debates*, vols. 78-79, pp. 3148-3149.

³ *Ibid.*, vol. 79, p. 3452.

This resemblance between the wages boards and the craft guilds was also noticed in the *Legislative Council* by M. H. Embling, *Parl. Debates*, vol. 79, p. 4325.

of factories, the section relating to the wages boards did not escape unfavorable comment.

The leader of the Opposition in the Council was Sir Frederick Sargood, a prominent boot manufacturer, who appeared to be held somewhat in awe by his colleagues. Few seemed willing to challenge his opinions on business matters. Sir Frederick spoke with scorn of the impracticability of applying the wages boards plan to modern business and he spoke sneeringly of the lack of knowledge of practical affairs possessed by the gentlemen who had introduced the bill in both houses.¹ When boiled down, however, his opposition seemed to be not so much to the boards themselves as to their proposed size and mode of selection. He was opposed to the idea of having the members of the boards appointed by the Minister and he

desired to emphasize the fact that no four men could possibly carry out the duties so cast upon them. The only way in which it was possible to have a board which would be at all satisfactory was to have it elected by the employers and the employees.²

Furthermore, when the Council had appointed a committee to consider the bill and to suggest amendments, Sir Frederick was named as chairman and when the committee reported the bill back with amendments it did not recommend the elimination of the wages boards from the bill.

Most of the debate on the boards in the Council revolved around the question as to whether the board members should be appointed or elected, altho there were members who objected to the boards on principle. It was said that they would do away with "personal liberty" and would "determine whether a poor widow was to be allowed to work for an honest living for her-

¹ *Parl. Debates*, vol. 79, pp. 4320-4321.

² *Ibid.*, p. 4322.

self and her fatherless children.”¹ The boards would “ruin industry.”² They would “never get through the work of classifying articles in the boot, furniture and clothing trades and deciding what prices should be allowed for labor.”³ “Nothing which Parliament could do, it was said, would stop sweating which existed in nearly every large city in the world.”⁴

Very little was said in the Council in favor of the boards and that little was said hesitatingly. The bill was referred to a select committee of the Council to take testimony from interested parties as to their attitude towards the measure. The committee held nine sittings, and examined thirty-two witnesses representing employers and employees in trades which would be affected by the measure, and also the officers who would be charged with the enforcement of the act if passed.

With few exceptions, the employers who appeared before the committee objected to the provision for wages boards. The representative of the Victorian Chamber of Manufacturers said that it was “the unanimous opinion of the whole of the members of the Chamber of Manufacturers present” (at the meeting held to discuss the bill) that no board can do effectively the work sought to be imposed upon it.”⁵ Even tho the members of the clothing board were elected by operatives and manufacturers it was said, “they could not have a technical knowledge of each of those trades in all the various branches, with the constant changes of fashion, shape and style and in the number of stitches in a garment.” The force of this objection was considerably weakened by its being shown that in the boot and cloth-

¹ D. Melville, *Parl. Debates*, vol. 79, p. 4405.

² *Ibid.*

³ *Ibid.*, p. 4412.

⁴ *Ibid.*

⁵ Report of the Select Committee of the Legislative Council on the Factories and Shops Act, 1890, Amendment Bill. Minutes of Evidence, pp. 14-15.

ing trades, voluntary boards composed of employers and employees had for many years fixed the log of prices to be paid for various classes of work.

Practically the same objections were raised by representatives of the boot, clothing and furniture trades.¹ A very few of the employers expressed a willingness to see the board plan tried² but insisted that both employers and employees must be allowed to elect their own representatives on the boards.

Most of the workmen who appeared before the committee expressed themselves as in favor of the wages board proposition, altho they confessed that there might be difficulties in the operation of the plan.³ Even the Chief Inspector of Factories, Mr. Harrison Ord, and his assistant, Miss Cuthbertson, altho in favor of the board plan, were uncertain as to how far it could go in regulating wages in the various trades. They pointed out that the bill did not contemplate any general regulation and that even within the trades to which it was to be applied, prices were to be fixed for making only a very few articles.⁴ The aim of the Government officials at this time seemed to be to show that the field of operations of the wages boards would be a very narrow one. Mr. Charles A. Topp, the Under-Secretary for the Colony, expressed well this attitude when he said:

It will be noticed that a Board may be appointed by the Governor in Council to fix the price for any particular article of clothing or wearing apparel, not clothing or wearing apparel, generally. . . . Objections, I notice, were raised by several witnesses in regard to the difficulty of fixing wages and prices for such articles as mantles, skirts, millinery and so on. I have no doubt there is great force in those objections, but it was never contemplated that the Board would fix prices for such elaborate articles of attire, but there are

¹ Report of the Select Committee of the Legislative Council on the Factories and Shops Act, 1890, Amendment Bill. Minutes of Evidence, pp. 1-50.

² Ibid., Minutes of Evidence, pp. 49-50. ³ Ibid., pp. 60-67.

⁴ Minutes of Evidence.

certain articles of tailoring done by women for which logs have already been fixed and worked with success for many years.¹

In view of the objections raised by employers to the wages boards and the rather hesitating support which the boards received from employees and government officials, and in view of the fact that four of the eleven members of the select committee, including the chairman, had denounced the wages boards plan in the debates in Council, it is surprising that this committee in its report to Council retained in the bill the section providing for wages boards. This section was, however, greatly changed from the form in which it came from the Assembly and it must be said that it was much improved. The business men of the Council, having decided to accept the wages boards plan, proceeded to reshape the clauses along practical lines and it is quite possible that had these changes not been made the wages boards plan would have proved quite unworkable. The committee reported on this part of the bill as follows:

The balance of evidence is in favor of the appointment of a separate board for each trade, *i. e.*, clothing or wearing apparel, boots and shoes, and furniture. Each Board should consist of not more than five representing the employers, and not more than five representing the employees, as may be prescribed.

Each Board should be elected half by the employers and half by the employees.

Employers to vote according to the average number of hands in their employ, including outside workers, and to be entitled to vote according to the class for which each factory pays registration fee, *viz.*: factories employing one to ten hands, one vote; eleven to thirty hands, two votes; thirty-one to sixty hands, three votes; sixty-one hands and upwards, four votes.

All employees working in factories to be entitled to vote for four representatives.

All outside workers to be entitled to vote for one representative.

The Chairman should be elected by each Board, or failing agreement, by the Governor in Council.

¹ Report of the Select Committee of the Legislative Council on the Factories and Shops Act, 1890, Amendment Bill. Minutes of Evidence, p. 94.

Each Board should be for the whole colony and should fix the lowest prices, also the proportion of apprentices and improvers.

Each board should have the power of deciding the hours of labor of girls, women and children, only.¹

The bill with the amendments suggested was returned to the Assembly, which seemed willing to accept the changes relating to the wages boards. Inasmuch as the two houses could not agree in regard to the matter of permits to out-workers, the bill was not passed at this time but was retained by the Assembly until the following session.

During the recess the bill was much discussed in the newspapers and from the political platforms. The Council was severely taken to task by Mr. Alfred Deakin for its refusal to require permits from the out-workers and was strongly defended by Sir Frederick Sargood. The Anti-Sweating League kept up a determined fight for the inclusion of this clause, but at a conference held between a committee of this organization and the Legislative Council Committee it was agreed to substitute for the system of permits a plan of registering the out-workers, — the register not to be open to the public.

The bill was again introduced in the Assembly by Mr. Peacock at the 1896 session of Parliament and was passed by that house in exactly the same shape in which it was left by the Assembly at the close of the preceding session. It was amended in the Council by providing for the registration of the workers outside of the factories and by adding "bread-making or baking" to the trades for which a special board was authorized to fix hours of employment and a minimum wage.² The amendments were at once accepted by the Assembly

¹ Report of Select Committee, p. iv.

² Parl. Debates, vol. 81, pp. 378-380.

and it received the Governor's assent and became a law on July 28, 1896.¹

The principal features of the wages boards legislation thus established² have already been described in the recommendations made by the Select Committee of the Council. The special boards were to be provided only for the clothing, boot, furniture and bread-making trades, there being a separate board for each trade. Each board was authorized to determine the lowest price or rate which might be paid to any person for performing the labor of manufacturing either inside or outside a factory. For factory work, piece-work prices or time wages or both might be fixed, but only piece-work rates were to be prescribed for work done outside factories. In fixing the rates of pay the board was to take into consideration the nature, kind and class of work and the mode and manner in which the work was to be done and any matter which might from time to time be prescribed. The board was also to determine the number or proportionate number of apprentices or improvers under the age of eighteen years who might be employed within any factory or work-room and their lowest rates of pay.

The determinations reached by the board were to be published in the Government Gazette and were to go into effect in not less than fourteen days thereafter on the date specified. The determinations were to be posted in a conspicuous place at the entrance to the factory or work-room and a copy furnished to every person or firm giving out work to be done outside a factory. The payment of lower wages than those specified was punishable by fines which increased with repetitions of the offense. A third offense brought not only a heavy fine but required the Chief Inspector

¹ *Parl. Debates*, vol. 81, pp. 384, 730.

² Section 15.

of Factories to cancel the registration of the factory or work-room.

Each board was to consist of from four to ten members equally divided between employers and employees within the trade and elected by them. The members of the board were to elect a chairman, not of their own number, and in case they failed to agree on one, he was to be appointed by the Government. The chairman was to have the deciding vote in all cases where the board members were unable to agree.

The act itself did not prescribe the mode of electing the representatives of employers and employees on the boards, but left this to be fixed by the Executive Council. Regulations were adopted on September 21, 1896, providing that occupiers of registered factories subject to the special board determinations who had paid a registration fee of less than 21 s. (\$5.10) should have one vote, those whose fees were 21 s. and less than 42 s. (\$10.20) should have two votes, those whose fees were 42 s. and less than 63 s. (\$15.30) should have three votes and those who had paid 63 s. or more should have four votes.

The names of employees entitled to vote were taken from the lists which employers were required to furnish. If the workers outside factories exceeded one-fifth of the total number of employees in a given trade they were entitled to nominate and elect one of the five representatives of employees; otherwise they voted with the employees engaged in factory work.¹

There were other excellent features of this Victorian Factories Act of 1896, some of which had already appeared in the laws of other countries, while others now found their way into legislation for the first time. But they do not concern us at this point. Taken as

¹ Regulations of Executive Council, September 21, 1896.

a whole, the act seems to have justified the statement of Chief Inspector Ord that it was "probably the most advanced Factories and Shops Act in the world."¹

3. Extension of the Wages Boards System and its Struggle for Existence

The framing of regulations and the preparation of electors' rolls from the lists of names supplied by manufacturers occupied nearly all of that portion of the year 1896 which remained after the passage of the Factories Act. It was not until November 2, 1896, that an Order in Council was issued for the election of the first boards. A board of ten members (exclusive of the chairman) was provided for each of the following trades: (1) boots and shoes; (2) articles of men's and boys' clothing; (3) shirts; (4) all articles of women's and girls' under-clothing; (5) bread-making or baking.²

The board for the furniture trade was not provided for at this time because it was discovered that if the board members were to be elected "the Chinese could have elected the whole or a large majority of the representatives on such board."³ As such an outcome was not deemed desirable, Parliament was appealed to at the next session to amend the act so that the members of this board might be appointed by the Governor in Council. This change was accordingly made.

The Bread-making Board was the first to be organized and had no great difficulty in reaching a determination, inasmuch as it did not have to work out a schedule of piece-work rates. The minimum wage in

¹ Report of the Chief Inspector of Factories, etc., for 1896, p. 3.

² *Ibid.*, p. 7.

³ Report of Chief Factory Inspector for 1897, p. 5.

this occupation was fixed at 1 s. (24 cents) an hour and the determination became effective in April, 1897.¹

The (Men's) Clothing Board met for the first time on January 26, 1897, and with peculiar fitness elected as its chairman Rev. A. R. Edgar, who had done so much to bring about this legislation. The work set for this board was an arduous one, for it had to fix not only time wages for men and women but to work out an elaborate schedule of piece rates. It was not until October 19, 1897, that the final determination was reached. It fixed 7 s. 6 d. (\$1.80) per day as the minimum wage for adult males and 3 s. 4 d. (81 cents) per day for adult females, with a sliding scale for apprentices and improvers varying with age and experience. The piece-work rates numbered thousands of items and covered when printed thirty-five pages of closely printed fools-cap. They were fixed (1) for males on order work, (2) for females on order work, (3) for females on "slop work."²

The Boot and Shoe Board was organized on February 11, 1897. For eight months the Board met at frequent intervals and on November 3d it fixed a minimum wage of 7 s. 6 d. (\$1.82) per day for adult males and 3 s. 4 d. (81 cents) per day for females. When the determination was published the manufacturers lodged a protest against its enforcement, on the ground that the high minimum rates would disorganize industry, ruin the export trade and lead to wholesale dismissals. Parliament being in session, it was decided to insert a clause in the bill amending the Factories Act so as to give the Governor in Council power to suspend the determination of any Board for a period not to exceed six months.³

¹ Report of Chief Factory Inspector for 1897, p. 5. ² Ibid., p. 6.

³ Report of Select Committee of the Legislative Council on the Factories and Shops Amendment Bill, 1897, pp. iii-iv.

The Government then suspended the determination in the boot trade and referred the matter once more to the Board. The Board thereupon reduced the minimum wage for males to 6 s. 8 d. (\$1.62) for clickers and 6 s. (\$1.46) for all others. The piece rates were not reduced, which meant that they would seldom be paid. This, thought the Chief Inspector, meant that the "safe-guard of the old and slow workers was removed."

The Board to fix the rates of pay for workers engaged in the manufacture of shirts, collars, cuffs, etc., met at intervals during the year 1897 but, owing to the difficulty of fixing piece-work prices, did not reach a determination until January, 1898. Much sweating was said to exist in this trade and the out-workers were eagerly awaiting the determination.¹

In the Women's and Girls' Underclothing Board many difficulties arose in connection with the fixing of piece-work prices and dissensions appeared among the members, so that after more than a year's effort to come to an agreement the board resigned in May, 1898. Another board was appointed in August of that year and after nearly another year's delay reached a determination in June, 1899. "There is no trade," said Mr. Ord in his Report for 1898, "in which there is more sweating than in the manufacture of underclothing and the great delay which has through various circumstances occurred in making a determination has been a great misfortune."² Miss Tate, one of the inspectors, reported that the price paid for making underclothes by one of the large city warehouses was 1 s. 6 d. (36½ cents) per dozen pieces. A woman could make one dozen pieces in a day of nine hours and out of this pay of 9 s.

¹ Report of Chief Inspector, 1897, p. 9.

² Ibid., pp. 18-19.

(\$2.19) a week, she had to provide her own thread and pay for returning the goods to the warehouse.¹

The Furniture Board, the only one not elected, did not meet until February, 1897, but was able to reach a determination by March 24th. Altho the law required that in this trade both time and piece-work rates be fixed "whenever practicable," the Board did not fix piece-work rates but established a minimum wage of 7 s. 6 d. (\$1.82) for the important branches of the trade.² This benefited the European workers, but proved impracticable in the Chinese factories and led to consequences which will be later described.

Postponing for the present the discussion of the results of the wage board legislation on the industrial and social life of the colony, we may say that three years of experience with the wages boards system had been sufficiently successful to warrant the Victorian Parliament in 1900 in not only continuing the experiment but in extending it to other trades. It would be far from true to state that the success of the experiment was generally admitted. To many employers it appeared to be a heavy load on industry and even to some of the workers (the old and infirm) it brought suffering rather than relief. But viewed in the light of present knowledge it would be fair to say that the following statement made by Mr. Ord in his annual report for 1898 presented an adequate summary of the results of the system during the first several years:

With a full knowledge of the significance of the statement, I say I believe the system has been successful. I do not for a moment claim that the system is perfect, and propose immediately to point out defects. That it has to a large extent prevented the worst evils of free competition appears to me beyond a doubt.³

¹ Report of Chief Inspector for 1898, pp. 18-19.

² Ibid., p. 10.

³ Ibid., pp. 4-5.

The Factories Act of 1896 was to continue in force only until January 1, 1900, unless Parliament was in session, in which case it was to lapse at the end of the session unless re-enacted by Parliament. In October, 1899, Mr. Peacock introduced a bill to continue the act and extend its scope. This bill, after extended discussion and after being amended in several important particulars, became a law on February 20, 1900, to become effective on May 1st of that year.

The principal changes made in the wages boards legislation by the Act of 1900 were (1) the addition of the business of a "butcher or seller of meat" to the trades for which special boards were provided; (2) granting permission to the Government to provide a special board for any other trade "usually or frequently carried on in a factory or work-room" if either house of Parliament by resolution declared it to be expedient; (3) giving to the boards authority to fix "the maximum number of hours per week for which such lowest wages, price or rate, shall be payable" according to the nature or conditions of work; (4) giving the boards authority to fix rates of pay, higher than the minimum, for overtime; (5) providing that where a board fixed both time wages and piece-work rates in the same trade the piece-work rates must be fixed on the basis of what a man of average ability could earn on time wages; (6) providing that the determination of a special board should be applicable to every city or town and might be extended by the Governor in Council to any borough or shire or part of a shire; (7) providing that whenever it was proved to the satisfaction of the Chief Inspector that any person by reason of age or infirmity was unable to earn the minimum wage fixed by the board, the Chief Inspector might grant him a license for twelve months to work at a less wage (named in the license) and might

renew the license from time to time; (8) continuing the statutory minimum wage of 2 s. 6 d. for apprentices and improvers and making it a punishable offense to evade the provision by the exaction of a premium or bonus either directly or indirectly for engaging a female apprentice or improver in making articles of clothing or millinery.

These were important amendments and they did much to give stability to the new mode of wage regulation. They were not adopted, however, without a struggle on the part of employers, especially those represented in the Chamber of Manufactures. Representations made by this body were to the effect that the factory acts were in many ways injurious to the trade and industry of the colony; that they were causing a scarcity of labor, were reducing the export trade of the colony and were not causing the increases of wages which had been claimed.¹

The same objections were repeated in the debates on the bill in the Legislative Council. Very little evidence was submitted in support of the claims of the manufacturers, and on the whole there was very little criticism of the effects of the previous legislation. Many members who were doubtful as to the advisability of extending the wages boards legislation to other trades were willing to admit that beneficial results had followed the 1896 act, and that sweating had been done away with, altho there were others who claimed that this latter result was incidental to a return of prosperity and was not due to the regulation of wages.

On the whole the most thoughtful speech on the bill was that made by Sir Henry Wrixon, who said apropos the proposal to have a Royal Commission investigate the workings of the act:

¹ Parl. Debates, vol. 93, p. 3004.

The real operation of the factory laws — their far-reaching effects, the way in which they will influence industry, the effects they may have on exertion, how far they may divert the energies of the people from a useful course — all these are things which you will not find out in two or three years, nor perhaps in ten or twenty years. The whole thing must be left to experience and no inquiry you can hold now will give you the real lessons which only time and experience can teach with regard to factory legislation. . . . The real operations, the real effect of the State taking on itself to direct the industry of the people and to control their action in the minute manner in which this has been attempted, is a matter the result of which may not be seen, perhaps, in this generation. It will gradually wear itself out whether we like it or whether we do not. Whatever we may think, or whatever we may wish, certain results will follow, and those results can only be proved by experience. . . . The only thing we can do is to try the experiment fairly, and as time goes on the results will be made clear gradually and then the community will be able to learn the lesson that experience has taught.¹

The objection most strongly urged against the amendments was that they proposed to extend the methods of regulation by wages boards to trades “in which there has not been a single complaint with regard to sweating.”² Fear was expressed that there was danger of introducing the theory of a minimum wage in industry which it was said was merely “a return to the legislation of the Middle Ages.”³

The Government, however, was able to show that in asking for an extension of the wages boards system to other trades than those named in the 1896 act it had acted in response to requests not only from workingmen but from employers, — some of them employing a considerable number of workingmen. Thus in the cigar-making trade, eight out of nine manufacturers with £50 licenses and 29 having £5 licenses had asked for a special board to fix a minimum wage for their trade. Seventeen employers in the harness and saddlery trade had signed a petition in favor of a board on

¹ Parl. Debates, vol. 93, p. 3011.

² Ibid., p. 3012.

³ Ibid., p. 3007.

account of the disorganized condition of the trade. Thirty-four employers in the marble masons' trade alleged that sweating existed in their trades and asked for a special board. Eighteen of the largest firms in the printing trade and thirteen employers in the tanning trade had asked for boards for their trades. On the side of the employees there was a petition from 269 men employed in saw-mills asking that a board might be appointed to consider their case.¹

Sir Frederick Sargood, who still led the Opposition in the Legislative Council and who, it will be remembered, derided the wages board idea in 1895 as impracticable, tho still very critical of the new legislation, acknowledged that a "considerable amount of good has arisen" from the Act of 1896 and said that there were many employers who were asking for boards for their trades. He said:

It is within my own knowledge, apart from the information that the Solicitor-General has read, that there are a large number of trades that, rightly or wrongly, believe that it would be to their interest — and I am speaking now more of the employers than the employees — to come under the Factories and Shops Act. At present they are at sixes and sevens; they believe that it will be fairer if all, large and small, are put on the same footing.²

The Act of 1900 carrying the amendments above described was enacted for a further period of two years. Parliament insisted, however, in coupling these amendments with another one which provided for the appointment of a Royal Commission to inquire into the operation of the Factories Act and to report to Parliament. The Victorian Chamber of Manufactures had asked that such an investigation be made before the factory laws were re-enacted.

Parliament acted quickly in response to the powers given by the act of 1900 and provided during that year

¹ *Parl. Debates*, vol. 93, p. 2992.

² *Ibid.*, p. 2998.

boards for 21 trades in addition to those already covered by the Act of 1896. As many of these, such as the carriage, printing, engraving and jewelry trades, could not be suspected of being sweated trades, it was obvious that a great change in the principle of wage regulation had been introduced by the Act of 1900.

The Royal Commission to inquire into the operation of the Factories and Shops Act was appointed by the Governor in Council on June 18, 1900. It was composed of twelve members, headed by the Hon. Alexander Peacock and having as one of the members Sir Frederick Sargood. Before it had accomplished any important work the elections of 1900 occurred. Sir Frederick Sargood and four other members were not returned to Parliament and therefore ceased to be members of the Commission. Mr. Peacock and one other member resigned from the Commission, which was reconstituted in 1901 with Hon. A. R. Outtrim as President.¹ The Commission took voluminous evidence during the years 1901 and 1902 and visited other colonies to investigate the workings of compulsory arbitration and early-closing acts. Its report was not ready when Parliament met in May, 1902, and the Government, then headed by Sir Alexander Peacock, was preparing to submit a motion to continue the Factories and Shops Act for a further period of time in order to permit the Royal Commission to complete and submit its report.² Before this could be done, however, a vote of no confidence had been taken and passed in the Legislative Assembly. The Ministers thereupon resigned and a new Government was created under the leadership of Mr. W. H. Irvine.

¹ Report of Royal Commission appointed to Investigate and Report on the Operation of the Factories and Shops Law of Victoria, 1903. (Introductory letters.)

² Parl. Debates, vol. 100, pp. 3-4.

The year 1902 marks a crisis in the history of the wages boards in Victoria. The country was experiencing a business depression, in part at least the consequence of a drought. There was much unemployment and complaints were made that the fixing of high minimum wages was responsible for the unemployment. The country districts were concerned lest the principles of a minimum wage and of a reduction of hours should be applied to the rural industries.¹ Industrial disturbances caused by the awards of the wages boards in the fell-mongering and brush industries had also caused hostile criticism of the wages boards.

The Fell-Mongers Board which had been authorized by a resolution of Parliament dated October 11, 1900, was duly elected on March 19, 1901. Shortly after the board meetings began, the employers' representatives resigned in a body because a resolution had been carried in the board meeting fixing the usual hours of work at 48 per week. It was pointed out to the employers that it was impossible to say what effect this would have on the trade until the wages had been determined. The chosen representatives would not recede from their position; neither would other employers come forward to take the places of those who had resigned. Under the circumstances the Governor in Council on June 11, 1901, appointed five persons from outside the trade to represent the employers. The board thus constituted reached a determination which came into force on August 2, 1901. The employers in the trade took strong objections to the determination reached in this way and appealed to a Supreme Court Judge for a rule *nisi* to quash the determination on the following grounds: (1) That the persons who purported to have been appointed, without election, by the

¹ Parl. Debates, vol. 100, pp. 13-14, and elsewhere.

Governor in Council, were not and could not be representatives of the employers under the Act; (2) that the Board had no jurisdiction to fix prices or rates for watchmen; (3) that the limitation of one apprentice or improver to every eight workmen was unreasonable; (4) that the Governor in Council had no power to appoint one special board for fell-mongers, or wool-scourers, or tanners of sheepskins. The Court's decision was in favor of the Crown on every point except the second, where it was decided that the board had exceeded its jurisdiction. This decision was given on September 7, 1901. The majority of the employers then closed their establishments and the employees were thrown out of work. The men nevertheless were determined to uphold the determination and did not ask the Government to alter it in any way. After a time some of the yards resumed operations but others continued idle.¹ This was the situation when Parliament convened.

The trouble in the brush industry concerned only a single employer. Mr. Laurence Jones, a brush manufacturer who had come from England about the year 1900, had established a factory at Heap-Lane, Melbourne. He expended about £3000 for machinery and employed about fifty females in his establishment. He claimed that he taught these women their trade and paid them from 17 s. (\$4.13) to 20 s. (\$4.87) per week, "with which they were perfectly satisfied."² Mr. Samuel Mauger, Secretary of the Anti-Sweating League, maintained that an investigation showed that the earnings of the women in this factory ranged "from 7 s. (\$1.70) to 9 s. (\$2.19) a week to do what was really men's work."³

¹ Report of Chief Inspector for 1901, pp. 23-24.

² Letter from Laurence Jones, *Parl. Debates*, vol. 100, p. 275.

³ Letter to *The Age*, quoted in *Parl. Debates*, vol. 100, p. 775.

The employers in the other brush factories asked for a wages board which, on being elected, fixed the wages at 45 s. (\$10.94) a week for "all persons employed at bass and hair pan work." This work consisted of making heavy brooms, such as are frequently used in cleaning streets, and the Board apparently thought that women should not be employed in this branch of the work. Mr. Jones protested against the determination and induced his employees also to protest, but the Board would not alter its determination and the Minister of Labor, Mr. Murray, would not refuse to gazette it. Mr. Jones, thereupon, removed his business to Tasmania, which at that time had no legislation regulating wages.¹

The new Government at once assumed a hostile attitude towards the wages boards legislation. Mr. Irvine, the Premier, declared that the Factories and Shops Act was "practically strangling industries which were in a very flourishing condition before the Act was passed," and, he continued, "I refer more particularly to the fell-mongering business."²

The new Minister of Labor, Mr. John Murray, had, prior to his acceptance of a ministerial position, in his speech on the no-confidence motion on June 3d, expressed his opinion of the wages boards in these words:

While the Factories Act is in itself inherently good, the administration of that act has been infernally bad, and it is the bad administration of a good act that has conduced so much to the unpopularity of the measure. Who is responsible for that administration? Why the Premier [Mr. Peacock] himself. The wages boards have done more to wreck factory legislation in the minds of the people — and the determinations of these boards, it must be

¹ Parl. Debates, vol. 100, pp. 775-777. It would be interesting to know what Mr. Jones has done since Tasmania has enacted wages boards legislation.

² Parl. Debates, vol. 100, p. 19.

remembered, have been approved of in every instance by the honorable gentleman who administers the act — than anything in the Factories Act itself.¹

A few weeks later Mr. Murray, as Minister of Labor, had to move the continuance of the Factories Act, including the existing wages boards, for another six months and was obliged to endure considerable “chaffing” from Sir Alexander Peacock, now leader of the Opposition, for his apparently sudden conversion.²

Altho there was little resistance to the passage of the Continuation bill in the Assembly, it was made the object of bitter attack in the Council. While the opponents of the wages boards would not declare that they would refuse to vote in favor of a continuation of the Factories Act, they succeeded in postponing from week to week a vote on the measure, claiming that the report of the Royal Commission would soon be ready and that there would be time enough to prepare a new bill based on the information supplied by the Commission. In the meantime the long pent-up feeling against the wages boards had an opportunity to vent itself in the debates. The friends of the wages boards in the Council were either too timid to make reply or considered that it was best not to delay a vote on the measure by attempting to answer the charges made against it. Members from the country districts suffering from the drought expressed the fear that capital was being driven out of the country by the wages board determinations. The occasion for this fear was the closing of the fell-mongering establishments, which made it necessary to send sheepskins out

¹ *Parl. Debates*, vol. 100, p. 58. When I was in Melbourne in the early part of 1912, Mr. Murray was Premier of Victoria. In a conversation which I had with him he expressed the opinion that the wages boards system was proving very satisfactory and that opposition to it had practically died away.

² *Parl. Debates*, vol. 100, pp. 89, 110.

of Victoria to be worked up.¹ Other speakers complained that the boards fixed the minimum wage so high that instead of benefiting employees it threw the weaker ones out of work. The Factories Act was said to be "a law to crush out the weak."² Still others objected to "the new religion — that unless a trade could give a man the highest possible amount of wages it ought not to be a trade at all, and ought to be sent elsewhere. This simply transferred the burden from our own State to our neighbors, because these trades must be carried on somewhere."³

One member complained that the wages boards system took the management of business out of the hands of employers and placed it in the hands of the chairmen of the boards, men who were "not practical business men and very seldom knew anything at all, or at any rate knew very little of the particular business they were asked to arbitrate upon."⁴

It was said that the workers had not received increased pay from the operations of the law, and ingenious arguments taken from a pamphlet published by the Victorian Employers' Federation were used to show that the working classes could not benefit by such legislation. According to the writer of this pamphlet, the minimum wage, if applied to an over-supplied labor market "inevitably leads to selection amongst the operatives"; if based upon the earning power of workmen of average skill it means that "the man below the standard must be discharged"; acting in a market where labor is scarce "it is unnecessary, as wages then rise by the operation of the law of supply and demand."⁵

¹ *Parl. Debates*, vol. 100, p. 369.

² *Ibid.*

³ *Ibid.*, p. 641.

⁴ *Ibid.*, p. 713.

⁵ Quoted in *Parl. Debates*, vol. 100, p. 774.

Not only the theory of the minimum wage came in for severe criticism in the Council but its administration was roundly scored. "One of the most prominent citizens" of Melbourne was quoted with approval as saying that the Factories Act was "being administered by an honest, energetic, well-meaning mono-maniac."¹ The Chief Inspector, Mr. Harrison Ord, was the gentleman thus characterized.

Altho urged in a half-hearted way by the Solicitor-General to hasten the passage of the continuation act, and altho informed by members of the Royal Commission that their report would not be ready for some time, the Council continued its policy of delay by postponing the time for a vote until September 10th, when Parliament was prorogued. Since the Factories Act lapsed with the end of the session of Parliament unless renewed, the State of Victoria suddenly found itself without any factory legislation except the antiquated and partially repealed statute of 1890. All the determinations of special boards ceased to have any legal effect at the same time.

The majority of the employers who had been working under wages boards' determinations did not take advantage of the lapse to reduce wages or otherwise to alter conditions. This was cited by the friends of the boards as evidence against the claim that the determinations were hampering industry.

The prorogation of Parliament was followed by its dissolution. The general elections resulted in a continuation of the Irvine Government and when Parliament again met that Government immediately brought in a bill for the revival of the Factories Act.

The bill was vigorously debated in both houses and the wages boards were attacked even more bitterly than

¹ *Parl. Debates*, vol. 100, p. 895.

at the preceding session. Aside from a strong speech made in their behalf by Sir Alexander Peacock, little was said in their favor. The opponents of the boards had gained boldness by the lapse of the determinations and were now willing to declare openly that they should not be revived. "The wages boards are dead and buried," declared one speaker, "and the cry on the part of some people is that it would be well to let them remain buried and not re-enact the wages boards sections of the Act."¹

A new argument against the boards was that at the time the act providing for them was enacted there was no union of the Australian colonies. "Now that we have federation," it was said, "and have to compete with the other states of Australia, we should not be placed at a disadvantage in the competition by any restriction on trade such as the wages boards."²

Finally, after the Legislative Council had succeeded in having certain important amendments adopted, the Factories and Shops Continuation Act of 1902, which continued the act until October 31, 1903, and revived all but one of the determinations of special boards made prior to July 16, 1902, was passed and came into force on December 5, 1902. The amendments to the act made by the Council were far-reaching and had serious consequences.

The Fell-Mongers' Board and the determination which it had made were not revived, but a new board was created. This and all other boards which had not completed their determinations were made subject to the restriction that no determination should be gazetted unless it had been reached by at least two employers voting with the employees or two employees voting with the employers. The power of the Chairman to

¹ Parl. Debates, vol. 101, p. 243.

² Ibid., p. 282.

vote was taken away. The Carriage Board was abolished. No new wages boards might be constituted and no determinations of any board might be extended to any shire.¹

The amendment which took away from the Chairman the power to cast the deciding vote and made necessary some form of mutual agreement between employers and employees if a determination was to be reached, had a paralyzing effect upon the boards then in existence which had not yet made a determination. Only one of the eight, the Leather Goods Board, was able to reach a determination. This Board had about concluded its work when the prorogation of Parliament had caused a suspension of its activities and its determination would doubtless have been carried by a unanimous vote.² Under the circumstances it was not difficult to arrive at a determination when the Board was revived. The other seven boards, however, failed to accomplish anything. In one instance a representative of the employees resigned and no successor was elected; in another case the employers' representatives refused to vote, while in the remaining cases the chairmen were obliged to report that there was no prospect of an agreement being reached and the boards adjourned indefinitely.³

There were at the close of 1902 twenty-nine boards whose determinations had been reached prior to the lapse of the acts and which had been revived by Parliament. Through a mistake in the wording of the act, however, no way had been provided for amending or altering a determination and this was proving embarrassing, for trade changes frequently made alterations necessary.⁴

¹ Report of Chief Inspector for 1902, p. 4.

² *Ibid.*, p. 35.

³ *Ibid.*, pp. 34-36.

⁴ *Ibid.*, p. 12.

The long-delayed Report of the Royal Commission Appointed to Investigate and Report on the Operation of the Factories and Shops Law of Victoria was completed in February, 1903, and presented to Parliament. The Commission had not limited its investigations to Victoria, but had visited other Australian states and New Zealand to study the operation of their laws. The investigation seems to have been a careful one and to have been conducted in no partisan spirit.

With reference to the wages boards the Commission declared that "despite grave abuses made by the boards . . . it may be conceded that they have effected a good deal of useful work in connection with the determinations."¹ The chief defects in the boards' work discovered by the Commission were (1) that the chairman usually had no technical knowledge of the trade, altho it was by his casting vote that decisions on any doubtful point were commonly made; (2) that the boards had no power to call for and take evidence on oath, or to examine books and records in any business; (3) that decisions reached oftentimes by a close vote were not subject to review by an independent tribunal; (4) that the law did not provide for granting permits to "slow and unskilful workmen," as it did for old and infirm workers.²

The Commission admitted that many of the employers who gave evidence looked with critical eyes upon the wages boards, saying that they had made very serious mistakes which tended to hamper and restrict industry, such as fixing the minimum wage too high, unduly restricting the number of apprentices and improperly regulating over-time and piece-work. Great stress was laid by these employers on the fact that

¹ Report of the Royal Commission, p. xxxii.

² *Ibid.*, pp. xxxi-xxxvi.

determinations had been reached by the casting vote of chairmen, who did not give proper consideration to the wage increase which industries could bear but were governed by what they considered to be "the cause of humanity" and when a doubt existed gave the benefit to the wage earner.

To satisfy themselves as to the truth of these allegations, the Commission investigated the conditions in all trades (11 in all) in which a determination had been in force long enough for the results to have become known. It was found that while mistakes had been made in the first award in the boot industry and in the awards in the printing and wood-working industries, on the whole the evil effects of wages boards' determinations had been greatly exaggerated in and out of Parliament. The export trade of all the industries which had an export trade at the time the board determinations went into effect had shown a substantial gain. The number of employees had not diminished except in the trades where much machinery had been introduced, altho the European furniture trade had shown no marked increase. Sweating, it was declared, had practically disappeared.¹

The Commission concluded its report on the work of the wages boards by stating that while the evidence showing that serious errors had been made by the boards

has to be admitted, we recognize that there cannot, in the circumstances of the time be any return to the old conditions of freedom of contract in factory labor. The well-being of thousands of wage earners with thousands of others dependent on them, rests on a humane, well-conceived, and properly administered law for the protection of this kind of labor. It is clearly our duty, therefore, not to destroy the good work already done in the cause of humanity and justice, but to so modify and correct defects which experience has

¹ Report of the Royal Commission, pp. xxxv-ix.

shown to exist that the best principles of our factory legislation may be maintained and extended, altho in a different form.¹

The members of the Commission had been greatly impressed with the New Zealand Conciliation and Arbitration Act, which despite certain admitted defects the Commission declared to be "the fairest, the most complete and the most useful labor law on the statute books of the Australian states."² They therefore recommended the adoption of this system in Victoria, with such modifications as experience had shown to be needful. Other and less radical changes in the Factories Act were also recommended.

Parliament seems to have been very little impressed by the recommendation of the Royal Commission that the system of compulsory arbitration be substituted for the wages boards. When it reassembled in September, 1903, the Government introduced a bill to continue the Factories Act indefinitely but proposed several important amendments to the wages boards plan. The Minister of Labor, Mr. Murray, who introduced the bill and who, it will be remembered, showed no enthusiasm for the boards in 1902, now said that he did not think the New Zealand laws had proved satisfactory³ and that the Victorian "system of an arbitrary fixing of a minimum wage is a provision I am prepared to defend, as against all other propositions that have been made, or against all systems that are in operation elsewhere."⁴ He presented statistics which showed that the growth of those industries which were under the wages boards plan had been fully as great as that of the trades not included, so that there was no truth in the oft-repeated assertions that the wages board system was preventing the growth of industry.⁵

¹ Report of the Royal Commission, p. lrv.

² Parl. Debates, vol. 103, pp. 45, 52.

³ Ibid., p. xxiii.

⁴ Ibid., p. 46.

⁵ Ibid., pp. 47-50.

The debate on the continuation bill was very lengthy and the wages boards were defended by most speakers on both sides in the Assembly. There was doubtless truth in the statement made by one speaker that some members favored the wages boards because they feared that if they were not continued a "worse system" (compulsory arbitration) would soon follow.¹

In the Council the wages boards were attacked with the usual vigor. They were said to have obstructed commercial progress, driven money out of the country, brought about a great loss of population, thrown the inferior workers out of employment, prevented the youth of the country from learning trades, brought all workers down to the same level, made the minimum wage the maximum and destroyed the ability and enterprise of individual workers.² On the other hand it was said that they had not prevented sweating nor put an end to strikes.³

There was little evidence brought forward to sustain these allegations but they served to show the uncompromising attitude on the part of many members of the Council. A fair sample of the arguments made in the upper house is contained in the following statement made by N. Levi. He was

entirely opposed to the wages boards system. The Supreme Being and Creator of mankind, who decreed that all human creatures should work for their living, allowed them their free will to accept whatever remuneration they were disposed to take for their services and never meant that they should be prevented by human laws from taking whatever wages they saw fit.⁴

The Council proceeded to pass an amendment to the bill which limited the scope of the boards' determinations to females of any age and to males under the age of 21.⁵ When news of this action reached the ears of the

¹ *Parl. Debates*, vol. 105, p. 691.

² *Ibid.*, p. 677.

³ *Ibid.*, pp. 668-685.

⁴ *Ibid.*, p. 666.

⁵ *Ibid.*, p. 758.

Ministers and of the outside public, such a storm of opposition was created that the Council decided to re-commit the bill to the committee where the objectionable amendment was cut out. The Council however insisted on amendments which took away from the wages boards their power to limit the number of indentured apprentices in any trade and which required that in the future no new boards be constituted without the consent of both houses of Parliament. Finally, the Council refused to make the Factories Act a permanent one but limited its duration to December 31, 1905.

In view of the open hostility to the wages boards in the Council and in view of the fact that practically no one in that house supported them in debate, it may cause surprise that the bill for the continuance of the Factories Act was allowed to pass at all. The explanation may be, in part, that changes had recently been made in the mode of selecting members for the Council whereby it became much more of a representative Chamber. The public meetings held to uphold the wages boards legislation and to express disapproval of the Council's attitude thereto probably caused some members of that body to feel that they were not voicing the views of their constituents. This, together with the fact that the Council was able to incorporate several important amendments in the bill, led to the decision to continue the wages boards.¹ Altho still a temporary measure, the Factories and Shops Act with its provision for establishing a minimum wage in industries had successfully passed its crisis and in 1905 there was little difficulty in having the act made a permanent one.

¹ An influential factor was the speech of Sir Henry Wrixon, whose opinions were held in much respect by the Council. At a critical stage in the consideration of the bill he took the floor and urged that the bill be passed in spite of what he was willing to admit were its defects.

4. Growing Popularity of Wages Boards in Victoria

The Factories and Shops Act of 1903 in Victoria introduced the following changes in the wages boards legislation. (1) The amendment to the law in 1902 whereby two employers' representatives must vote with the employees or two employees' representatives with the employers in order to reach a determination was repealed and the right to cast the deciding vote in case of a tie was restored to the Chairman. (2) A Court of Appeals was created to pass on cases in which either employers, employees, or the Minister wished to take an appeal from the decision of a board. The Court was to consist of a Supreme Court Judge, aided, if he so desired, by two assessors, representing both the conflicting interests, to give the judge advice on technical points. The assessors, however, were not given the right to vote. (3) New special boards might be created if the resolution authorizing them were adopted by both houses of Parliament. (4) Special boards were no longer to place limitations on the number of apprentices in any trade or business. (5) The Chief Inspector was empowered to grant permits to "slow" workers as well as to old and infirm ones and on the same conditions. (6) The boards might, if they saw fit, fix the special wages or rates at which old, infirm or slow workers might accept employment. (7) In reaching a determination as to the minimum wage or price to be paid to any worker each special board was instructed to ascertain the average wage or price "paid by reputable employers to employees of average capacity" and to fix the minimum wage or rate no higher than such average. If the board believed that the average was too low to serve as a minimum it might refer the matter

to the Court of Appeals. (8) The Minister was given power to nominate the members of any special board and unless one-fifth or more of the employers or employees respectively objected within twenty-one days to the persons nominated to represent them, the persons nominated might be appointed members of the board by the Minister. If one-fifth of the employers or employees did object, an election was to be held the same as hitherto.

This last amendment was one which received the strong indorsement of Sir Alexander Peacock, leader of the Opposition. Sir Alexander has always favored the appointment rather than the election of the board members. His reasons are well set forth by the following extract from his speech on the adoption of the amendment. He said:

I am confident that the great defect that has arisen in connection with our wages boards is owing to the fact that the representatives on the respective sides, before they are elected at all, have made pledges as to what they would do when they came to deal as jurymen with questions to which they should give the fairest attention, recognising all interests; and then having made those pledges the questions that come before them are pre-judged before any evidence is taken. . . . We know that candidates for election to the wages boards have canvassed for votes, and have pledged themselves to ask for certain rates of wages, and that on the other side the employers' representatives have pledged themselves beforehand to insist on the wages being as low as possible. That was all done before any evidence was taken to determine what the proper rates were. For three years we tried that system and my experience in administering the act was exactly what I have said.¹

In August, 1905, the Government introduced the bill to consolidate and make permanent the nine existing laws relating to factories and shops. No changes were made in the laws themselves. In introducing the measure the Minister of Labor called attention to the

¹ *Parl. Debates*, vol. 105, pp. 116-117.

fact that in 1896, the year when the wages boards plan was introduced into legislation, the number of workers registered in factories was 40,814; in 1904 it was 60,977.¹ He said:

If these figures prove anything, I think that they prove that the laws relating to factories have not in any way impeded the progress of trade in this country. I think those figures also prove the efficacy and great advantage of having these industrial laws in the State. No doubt, in the early history of these Acts, there was very considerable friction in connection with the position of employer and employees. I think I am correct in stating that the Acts are now working smoothly, and that a much better feeling exists — almost the best of feeling — between both sides, and that the employers as well as the employees are thoroly well satisfied with the law as it obtains at present. I think that the hostile mood that was apparent in the early history of these Acts has disappeared, and that there is every prospect of success in connection with our industrial legislation.²

The early passage of the consolidating bill through both houses of Parliament gave evidence of the truth of the Minister's statement. The debates on the measure were very brief. Most of the speakers praised the acts for having prevented sweating and strikes and for improving the relations between masters and men.³ Some little muttering of discontent was heard from those members who claimed that the acts were still in the "experimental" stage and should therefore not be made permanent, but this was but the lingering echo of the storm of opposition which had nearly swept the acts away in 1902-03.⁴ When the time came for a vote the bill to consolidate and make permanent the existing factories legislation passed in both houses without a division.

Since 1905 no fundamental changes in the wages boards legislation have been made in Victoria, but the

¹ *Parl. Debates*, vol. 110, p. 906.

² *Ibid.*, p. 906.

³ *Ibid.*, vol. 111, pp. 1608-1612.

⁴ *Ibid.*, p. 1611.

powers of the boards have been steadily increased. The provision in the 1905 act by which every board was instructed to ascertain the average wages "paid by employers to employees of average capacity" was found to be unsatisfactory and to hamper the work of the boards. It was accordingly repealed in 1907.¹ In 1909 Parliament provided that District Boards might be appointed in the mining industry instead of one board for the entire State and that any district board might make its determinations apply to any part of such district as it saw fit. At the same session of Parliament power was given to the Governor in Council to authorize the boards to take into consideration in fixing the lowest rates of pay the following matters: (a) the place or locality where the work was to be done; (b) the hour of the day or night when the work was to be performed; (c) whether more than six consecutive days' work was to be done and to fix special prices or rates for work done on Sundays or holidays; (d) the time of beginning and ending work upon each day and the special rate of pay for work done at any hours other than those fixed for any day; (e) whether the work was casual, *i. e.*, for less than a day.²

At every session of Parliament since 1905 resolutions have been carried in both houses for the appointment of new wages boards, until at the close of 1913 there were in existence or authorized 134 special boards in as many trades or occupations. The Chief Inspector estimated that about 150,000 workers had their minimum rates of pay determined by such boards.³ Not only has the number of trades for which boards are provided continued to increase but their scope has

¹ Report of Chief Inspector for 1907, p. 3.

² Report of Chief Inspector for 1909, p. 4.

³ Report of the Chief Inspector for 1913, p. 6.

constantly widened. The idea that the boards were to operate only in the sweated trades has long been abandoned. No longer is the board plan of wage regulation limited to manufacturing industries. Asphalters, bill posters, bread carters, carpenters, coal miners, commercial clerks, dressmakers, electroplaters, factory engine drivers, gold miners, furniture dealers, gardeners, grocers, hotel employees, livery-stable employees, milliners, night-watchmen, office-cleaners, quarrymen, shop assistants (retail clerks), sorters and packers, tea packers, timber-fellers, tuck-pointers and many other classes of employees have their minimum wages and maximum hours fixed by such boards.¹

In some industries and occupations two boards are appointed, one for the metropolitan area (Melbourne and suburbs) and the other for the country districts. Thus there are the flour board and the country flour board, the printers' board and the country printers' board, the country shop assistants' board, etc.² No effort has as yet been made in Victoria to provide wages boards for distinctly agricultural callings. Doubtless the country prejudice against such legislation still survives. Nor has there been any effort to regulate the wages or hours of domestic servants by means of such legislation. But practically every other field of industry has been invaded and Mr. Alfred Deakin's prediction, made in 1895, that "one day or other these boards will be established in every trade" comes well-nigh realization within the life of that gentleman.

M. B. HAMMOND.

OHIO STATE UNIVERSITY.

¹ The full list of boards is given in the Annual Report of the Chief Inspector of Factories.

² Report of Chief Inspector for 1913, p. 6.

SPECIFIC PRODUCTIVITY

SUMMARY

The argument for productivity as the determinant of distributive shares, 149. — Preliminary criticism, 151. — The main argument for specific productivity rests upon a truism, 152. — The impossibility of isolating specific productivity, 155. — The mathematical error in the method of isolating specific productivity, 158. — The two schools of value theorists, 162. — The psychological theory of value; a safeguard against the dangers in productivity reasoning, 163. — The surrender of the social implications of the productivity thesis, 166. — The element of truth in the specific productivity concept, 168. — Conclusion, 174.

ECONOMICS is no longer the dismal science. Since the days when the wage fund and the principle of population were combined to deprive the wage earners of hope, enormous strides have been taken in the formulation of an economic theory which is both more hopeful and more correct. The revolution which has taken place within the field of economics is comparable to that effected by Darwin in the hypotheses of biology. In accomplishing this revolution in economic thought few men, if any, have rendered greater service than Professor J. B. Clark. Yet one important part of his work has tended to enslave us by a belief only less dismal than those which have been discarded. This is his doctrine of "specific productivity."¹

Professor Clark's thesis² is that even among the complexities of modern industry a laborer creates a

¹ *The Distribution of Wealth*, 1899. The doctrine has been reaffirmed in *The Essentials of Economic Theory*, 1908.

² " *The specific productivity of labor fixes wages* — this is the thesis that is to be supported in this volume. Ascertain how large a product is to be attributed to a single unit of labor that is employed in raising wheat, making shoes, smelting iron, spinning cotton, etc., and you have the standard to which the pay of all labor tends to conform.

product which is specific and distinguishable; that in static conditions he secures exactly this product as his reward; and that in dynamic (actual) conditions a fundamental law is at work, — its effects modified to be sure by dynamic change, — but tending constantly to secure for the laborer his full product as his reward. In the working of this law Professor Clark describes a great principle of justice. He holds that except as dynamic change sets interfering forces at work our modern industrial society is rewarding every man according to his deserts. It is a new doctrine of economic harmonies, and it aims to establish the justice and honesty of society.

Professor Carver¹ has shown in conclusive fashion that Clark's views as to the justice of society do not follow from his thesis of specific productivity. Mr. J. A. Hobson² has questioned the "dosing" method of determining specific productivity; and Professor Davenport in his recent book, *The Economics of Enterprise*, has directed a vigorous attack against the concept of specific productivity itself. But the belief that specific productivity acts in the determination of wages and interest is today widely held. It will be the endeavor of the present writer to exhibit somewhat more completely what he regards as the fallacy of this thesis.

The reasoning employed in the attempt to establish the productivity theory may be summarized in the following propositions: —

1. A considerable amount of labor is employed in connection with "no-rent" (valueless?) agents.

In like manner does the specific productivity of capital fix the rate of interest. Ascertain how large a product is due to the presence of the single unit of capital in each industry, and you have the standard to which all interest tends to adjust itself." *The Distribution of Wealth*, p. 47.

¹ *Quarterly Journal of Economics*, vol. xv (Aug., 1901), p. 578. Cf. also Davenport's comment, — "Carver has made this clear in his review of the work under consideration; nothing remains to be said." *Value and Distribution*, p. 440.

² *The Industrial System*, 1910, pp. 112-120.

2. A larger quantity finds employment in connection with the no-rent uses of superior agents and of agents which are on the point of being discarded.

3. The whole product which results from the employment of such labor is attributable to the labor.

4. Such (marginal) labor receives this whole product as its reward.

5. Other units of labor will necessarily have the same productivity as the marginal units if they are interchangeable.

6. These other units will be paid at the same rate as the marginal units.

The conclusion is that throughout the whole field of industry the criterion for the payment of a unit of labor is the distinguishable or "specific" productivity of that unit.

The last of these propositions it will be unnecessary to discuss at any length. One might pause for some time on the first and second. It might be pointed out that in a static or frictionless condition neither of these will be true.¹ Laborers may be employed in connection with agents which yield small rents, but if the rent is absolutely zero the agent will be discarded. The use of a no-rent or non-use-bearing agent is a contradiction in terms. Nor will an employer hire laborers to work in connection with superior agents if they add to his income only what he has in turn to pay over to them as wages. He may employ men when there is a very

¹ It is worth noticing that in order to show that labor is employed in connection with no-rent agents Professor Clark appeals to an illustration drawn from dynamic conditions. "There are mills and furnaces so antiquated, so nearly worn out, or so badly located that their owners get nothing from them: and yet they run." (*Distribution of Wealth*, p. 96.) But such conditions have no place in the ideal static state. There is plainly nothing to be gained by the employment of such agents. In the static state they would clearly not be used. Even in the actual conditions of production business men are constantly on the *qui vive* to send to the scrap heap anything which it does not pay to use. There are, to be sure, cases (and plenty of them) where agents are continued in use when they not only do not yield a profit, but occasion an actual loss. But once this loss is detected the agent is discarded.

small amount to be gained by doing so, but when it is clear that the *whole* advantage which he gains must forthwith be surrendered to the laborer as a wage, he is likely to decline to enter into the contract. There is, therefore, no such large "zone of indifference" as Professor Clark would create;—no considerable area within which labor works in connection with the no-rent uses of capital. And if this area does not exist, Professor Clark's method of disentangling the product of labor from the product of capital has in consequence no reality either.¹

These criticisms, if valid, would seem to dispose of the productivity theory. Not yet, however, have we really reached the heart of the matter. The third, fourth, and fifth propositions are the ones which call for our most careful attention. And it will be proper to discuss them under the assumption that the first two are correct. On the surface of things the argument adduced to prove the fourth proposition seems beyond all cavil. If a given employer offers to our marginal laborer less than what the employment of the latter will add to the product of industry, he will be overbid by others who stand ready to pay the full amount. It is the perfect competition of employers² in the static state which is regarded as bringing the wage of the marginal laborer up to an exact equivalence with the product of his labor.

Nor is any exception to be taken to the sixth proposition that interchangeable units (marginal and non-

¹ This point may deserve fuller elaboration than it has received. In reality, as will be seen further on, it contains one of the fundamental fallacies of the argument. If labor were employed in large amount in connection with the no-rent uses of agents, and if it could be said of such agents that they contribute nothing to the product, then that product would plainly be the "specific" creation of the labor. Such marginal labor would then receive its "product" as a wage.

² "It is by assuming perfectly free competition among employers that we are able to say that the man on the intensive margin of an agricultural force of laborers will get, as pay, the value of his product." *Distribution of Wealth*, p. 90.

marginal) will all be paid at the same rate. A careful examination of proposition number five, however, will throw it into a new light, and will show up proposition number four as something quite different from what it seems.

The essence of the fifth proposition is that an employer regards interchangeable units of labor as equal in importance. He evidences his estimate by the pay which he offers, which is uniform for all. If a given laborer, doing an indispensable part of the work, should ask more than the current rate, he would be discharged and one of the others put in his place.¹ The process is simple and logical. Now let us ask what in actuality the employer has done. He has not taken the physical product and separated it into parts produced by and ascribable to the respective laborers, — learning in this way the specific product of each. What has he done then? He has tendered and paid wages. And *in so doing* he has set a valuation upon the services of the different laborers. (And this valuation has been accepted by them.) Seemingly this is all there is to the supposedly equal “productivity” of marginal and non-marginal laborers. They are thought² to have equal productivity because the employer sets the same value upon their services in paying them the same *wage*. They are not doing the same work. There is no physical identity or equality between the products of the various laborers. The respect in which there is an equality between them is in the equal valuations which attach to their labor *in the payment of the wage*. This

¹ The Distribution of Wealth, p. 107.

² “If the men are quite interchangeable, the effective productivity of any one of them is equal to the absolute productivity of the final or marginal one, whose work can best be dispensed with. . . . In so far as men can be freely substituted for each other, any man in a series of men is *actually worth to his employer* only as much as the last one in the series produces.” Distribution of Wealth, pp. 104–105. (The italics are the present writer’s.)

payment of the wage is the overt act. And in the performance of the act an evaluation has been made.

Clearly then, we have here essentially *one* thing, not two. Throughout the whole world of industry it is by the actual payment of wages and prices that the process of evaluation takes on the form of actuality. And when we say that an employer pays a man "what he is worth" to him,¹ we are asserting, if not an absolute identity, at the most a truism. And a truism tells us not one thing about the relation between wages and social deserving.²

It should be clear, then, that if we take the expression "what a man produces" and use it in the sense of "what a man is worth to his employer" we have not advanced a single step through our conclusion that a man is "paid what he produces." We have still the same identity or truism, clothed to be sure in a new form of words, — and unfortunately a form of words likely to lead us seriously astray in our reasoning. Professor Clark's "productivity" is a will-o'-the-wisp. He pursues it, but never catches up with it and subjects it to examination. In the course of the pursuit he crosses the path of the employer's "valuation," and he takes this to be the "productivity" which he has been following. It is through this misadventure that the thesis he is supporting becomes a truism.³

We are now in a position to see the real significance of our fourth proposition. If by the "whole product"

¹ See note 2, p. 153.

² Davenport seems to have the same criticism in mind when he says: "Whether the theory does not determine what the labor accomplishes by finding out what it gets, as the basis for the conclusion that what it gets it accomplishes, is a question which must for the moment be postponed." *The Economics of Enterprise*, p. 152.

The present writer is unable to find, however, any place where the point is taken up again.

³ The repeated use of the phrase "*effective productivity*" (cf. pp. 103-107) shows the course of the author's thought. By *effective* he seems to mean "having an effect on the employer's valuation (wage payment)."

of marginal labor is meant merely the value ascribed to the services of the laborer as evidenced by the wage payment, we have here clearly the same identity or truism which we have been discussing above. And that the words *are* used in this sense is made abundantly evident in Professor Clark's book. This fourth proposition can now be expressed as follows:— Such (marginal) labor receives the sum at which its services are evaluated. And, as the payment is but the concrete aspect of the evaluation, this is about the same as to say that a man is paid what he is paid. The thesis of specific productivity as the determinant of wages remains unproved, and the laws of distribution are still to seek.

This negative result, however, must not satisfy us. We want to know whether the concept of specific productivity has any reality. Professor Clark has recognized the difficulty of separating a joint product into the parts created by the respective factors in production. Of a primitive economy, he says:

It is nearly ¹ impossible for a man to say how much of his product is due to labor only. The distinction between the whole product of labor and the whole product of industry is, however, all-important; for industry involves the coöperation of labor and capital. Let a man fish from a dugout, with the simplest line and hook that he can make. The fish that he will bring to the shore are the product of labor and capital. Effort aided by instruments has secured them. How much of the catch is due to the man, and how much to the canoe and the fishing tackle? Not for his life can the man himself tell. Can he put the fish into two piles, and say, "This pile is due to my effort only, and that pile to my equipment?" Every single fish is a joint product — indeed every fin or scale of a fish is so; and the difficulty is that it is impossible to divide a single one of them into fractions due to the producing agencies. Hopelessly merged with the product of capital is the product of the labor of an

¹ Why not omit this word "nearly"? Cf. "hopelessly merged," and "it is impossible to say what the produce of labor itself is."

independent producer. Instead of presenting the condition in which the wages of labor are readily distinguished from other incomes, and identified as the "produce of labor," such a primitive economy as actually exists is one in which it is impossible to say what the produce of labor itself is.¹

We are confronted, of course, by exactly the same difficulty in an exchange economy. The point is made so crystal clear in the paragraph quoted that our suspicions should be instantly aroused by the ease with which, a little further on, the specific product of labor in an exchange economy is disentangled. For strange tho it may seem, this thing which is "impossible" under simple conditions, — the disentangling of the shares in the productive process, — Professor Clark regards as possible under the conditions of an exchange economy. The way in which it is supposed to be done has already been indicated. Labor is conceived as being employed in connection with the "no-rent uses" of capital. As these uses are thought to be worthless, the capital is regarded as not contributing anything to the joint product. This *joint* product is therefore attributed to the labor as its exclusive "specific" creation. The absurdity of such a view is plain, and Professor Clark himself uses language which exhibits this absurdity in the clearest way.

There are machines which have outlived their usefulness to their owners, but still do their work, and give the *entire product that they help to create* to the men who operate them. There are railroads and steamship lines that pay operating expenses only. There are stocks of merchandise so full of remnants and unstylish goods that it barely pays salesmen to handle them. Everywhere, in indefinite variety and extent, are no-rent instruments; and, if labor uses them, it *gets* the entire product of the operation.²

¹ Distribution of Wealth, p. 83.

² Distribution of Wealth, p. 96. The italics are mine. The meaning is plainly that labor "gets" the "entire product" which the machines, etc., "help to create." Is it not clear that the thing which is "specific" is the reward, not the product?

If these no-rent instruments "help to create" a "product," it is a strange use of words which attributes such a joint product to the one factor, labor. Two things are certain:—one is that Professor Clark's specific productivity is productivity in the sense already discussed, and the other is that when labor and capital coöperate to produce a result that result is their *joint* product. It is a verbal absurdity to ascribe it to either factor alone.

Now there is no such thing as empty handed or unaided labor.¹ Some material instrument is always employed, and as long as this is true, we are left without any method of disentangling the specific product of labor. If it is "impossible" in primitive individual economy, it is a clinched and riveted impossibility in the complex productive processes of an exchange economy.

As a matter of fact there is no such thing as specific productivity. It is even theoretically inconceivable. The familiar concepts of physics find here no analogue. In physics a joint resultant *may be* analyzed, — as in the familiar case of the parallelogram of forces. A ship which travels south-east (nearly) for a distance of five miles may be actually carried by the wind three miles to the east, and by the tide four miles to the south. But if a man cuts down a tree it is vain to speculate as to what fraction of the work is done by the man and what fraction by the ax. Let two men plow a field with the aid of a team and a plow, the one driving and

¹ Professor Clark is inconsistent on this point. At a number of places he tries to send laborers to work "unaided" or "empty handed" on marginal or no-rent land. But he generally finds himself compelled to allow them a minimum of equipment, — a hoe or a spade or some other simple tool. But in order to display to us the isolated product of labor he systematically belittles the importance of this equipment, and tries to make it appear negligible. Now small quantities are for *some purposes* mathematically negligible. But here the assumption is quite invalid. This will appear from the fact that on page 184 Professor Clark himself puts a mere hatchet into the hands of a man otherwise without tools, and then credits the hatchet with a "productivity" of what is called a "500% rate of interest." *Distribution of Wealth*, pp. 84, 88, 89, 92, 95, 100, 160, 184.

the other holding the plow handles. It would puzzle the greatest mathematician in the land to say just how much of the plowing is done by the team, plow, and the men respectively. And if the plowing cannot be fractionally ascribed to the respective factors, then neither can the value of the plowing.

There is in fact an error in elementary mathematics in Clark's method of estimating specific productivity. If an extra laborer is added to a going concern, it is true that there may be a definite increase in the product as a result. It may even be possible to estimate this increase approximately. Moreover it may be a correct business judgment to justify the employment of the extra man on the ground that the extra product warrants the expense.¹ But if the increase in product over what it *would have been without him* be regarded as his specific creation,² and the same method be used to measure the specific creation of each of the coöperating factors, it is mathematically impossible for the sum of the productivities specifically attributed to the factors to be equal to the actual aggregate product. This whole is not equal to the sum of all its parts.

Hobson, in his criticism of the productivity theory has attempted to show this by a numerical example.

¹ W. M. Acworth in his little book, *Elements of Railway Economics*, shows in a very interesting fashion the making of a railway rate on much the same principle. New traffic, not otherwise to be secured, may be profitably carried by fixing a rate which will a little more than cover the *extra* expense entailed in carrying it, even tho the new traffic does not help defray any of the general charges. But plainly this method of making a rate cannot be generalised. It can be used only when the new traffic is to be added to a "total situation" which already provides for the carrying of the general charges. Now it would be incorrect to call the extra expense involved in carrying the new traffic its cost of transportation. But this would be quite analogous to ascribing the increase in product, resulting from the employment of an extra laborer, to the laborer as his specific creation. It pays to take on the new traffic, and it pays to employ the extra laborer. But the *extra* expense is not the cost of transportation of the new traffic; nor is the increase in the product the specific creation of the new laborer.

² This is Professor Clark's view. And it is worth noting that J. Maurice Clark in his review of Davenport's *Economics of Enterprise* (*Political Science Quarterly*, June, 1914, p. 319) has given recent expression (in defending the productivity theory against Davenport's criticism) to the same belief.

In a primitive fishery let us say that one man fishing alone could make a catch of ten; a two-man group a catch of twenty-two; a three-man group of thirty-seven; a four-man group of sixty; a five-man group of seventy-two.¹

Mr. Hobson's general criticism of the dosing method of isolating the specific product seems to me valid. But his numerical example will hardly be accepted as meeting Clark's case squarely. In the first place he cites a case of increasing returns. Clark seems always to have in mind decreasing returns. As a matter of fact the increase of product due to the employment of one more laborer, itself increases to a maximum, and then decreases (with successive increments of labor). In the second place he is dealing with technical or physical productivity, whereas Clark has "value productivity" (if there be such a thing) in mind. Finally he cites a coöperative group of fishermen dividing the physical product. Clark is thinking of an employer who hires labor for wages. In the numerical illustration given, the four-man group is the most advantageous, for its product divided by the number of men gives the maximum quotient of fish per man. But if an *employer* is hiring the men at a wage of five fish per man, it will "pay" him to employ a fifth, or a sixth, or a seventh man. He will employ additional men until he comes to the one whose employment brings an increase in the joint product which barely exceeds the wage which has to be paid. This would make the illustration more like Professor Clark's. Now if the increments resulting from the employment of the fifth, sixth, and seventh men are 12, 7, and 5 respectively, and if we concede that the employer would hire the seventh man, — tho he gains nothing by doing so, — this seventh man would then be Clark's "marginal" laborer. Hobson

¹ The Industrial System, 1910, p. 114.

would now say, "The total catch is 84, which gives a product of 12 fish per man." But this allows nothing for the services of the equipment, — boat, tackle, etc. Hobson attributes the whole catch to the single factor, labor, which is quite as inadmissible as anything Clark does. The latter would call five fish the ("marginal") productivity of the seventh laborer. Five would also be the "effective" productivity of each of the other laborers, — making the total product of the laborers, according to Clark's reasoning, thirty-five fish. By subtraction the product which must be attributed to the equipment would be forty-nine fish. (Eighty-four less thirty-five.) Now how absurd to say that out of the total of eighty-four, thirty-five fish are produced by labor, and forty-nine by capital! The contributions of the two factors are as "hopelessly merged" and as "impossible" of disentanglement as in the case of the single fisherman cited by Clark (see above, p. 155). How much of the catch is due to labor, and how much to equipment? "Not for his life" can Clark — or anybody else — tell.

The real mathematical error lies in *not attributing to the coöperation of the rest of the group* any part of the so-called "marginal product" of five fish. The five fish as well as the other seventy-nine are the "product" of a coöperation between seven men and certain equipment. It cannot by any necromancy be fractionally ascribed. Hobson must be credited with having seen and expressed this with perfect clearness even tho the issue is not squarely joined in his numerical illustration.

But there is *something* "specific" in this illustration. What is it? Merely the wage, — the "reward" of labor, not its "product." The men are paid what they are paid. It seems a very obvious proposition

that if "x" is the increase in product resulting from the addition of an increment of labor, "a," to what Davenport would call a "total situation," that the factors of this total situation play a role in *coöperation*¹ with the increment of labor in the creation of "x." And if "x" is *called* the specific product of "a," we may borrow a phrase from Davenport and say that "the defect in the theory lies in the simple untruth of the assertion." When the new situation is viewed as a whole "x" is not the fractional part of the total product logically attributable to "a." There is no such fraction and can be none.²

The writer is aware that this view will not find ready acceptance. There are in America, broadly speaking,

¹ It may be that Davenport falls a trifle short of his usual skill in expressing his ideas when he says that productivity is "relative" not "specific." (*The Economics of Enterprise*, p. 153.) But Professor A. S. Johnson, in his very able review (*Quarterly Journal of Economics*, May, 1914, p. 441) should not have missed the point so completely as to say that Davenport's "relative productivity" and Clark's "specific productivity" are the same. If language means anything (and Professor Clark's language is of a crystal clear lucidity), Clark means by "specific productivity" exactly what Davenport understands him to mean.

² "No separate does has any separate product." And also, "If the employment of a tenth shepherd means twenty more sheep per annum than the employment of nine, it cannot be maintained that twenty sheep form the separate product of the tenth shepherd, but only that a ten group is more productive by twenty sheep than a nine group." Hobson, *The Industrial System*, p. 115.

Davenport's formulation is as follows; "How then proceed to attribute to any one of the factors the increase of the proceeds due to the joint employment? So long as either glove is necessary to the worth of the pair, how tell how much either is worth? Which leg of a three-legged stool supports the stool? All that we can say is that if the stool is worth \$3, one can afford to pay \$3 not to be deprived of any one leg of it. So \$3 may be offered to get back a lost glove out of a \$2 pair. Thus it is easy enough for the entrepreneur to determine how much he can afford to pay for an item of productive goods or labor to go with his present equipment, but this is not at all to attribute to the extra item all the increase of gain which will accrue with the addition of the extra item. One buys, say a horse, to go with a wagon which otherwise would be useless. But this is not to attribute to the horse all the result from both horse and wagon. The horse would be equally useless without the wagon. In the last analysis, the entrepreneur himself could not isolate and determine a specific serviceability for gain relatively even to himself, but only that which he can afford to pay to get the thing or to refuse to keep the thing. And, as we have seen, no one of all these different sums that the entrepreneurs can respectively afford to pay or refuse has any special title to be regarded as the specific significance of the productive factor." *The Economics of Enterprise*, p. 147.

two schools of value theorists. The difference between them is directional. The cost-of-production theorists, tho somewhat eclectic, yet incline in the main to let value begin in cost of production and run thence to its goal in the price of the product. The psychological school pictures for us a current setting strongly in the other direction, — rising in subjective valuations, flowing through consumption goods to the value of durable agents, and exercising a certain domination even over costs. The adherents of this first school, because of their directional tendencies, will find it easy to accept specific productivity. When they see a productive agent going in at one end of the hopper they will be yielding to a very natural tendency if they run quickly to the other end with the confident expectation of seeing a distinguishable product emerge from it.

The other school might logically be expected to give their support to the view set forth in this paper. They are not, however, sure to do so.¹ For there is still too much neglect in America of a distinction which, tho by no means new, has recently been given increased emphasis in Germany.² It has been summed up in the proposition that the theory of distribution is not a *value problem*. Perhaps it would be better to say that it is more than a value problem. In order to bring out the full meaning of this proposition let us look for a moment at the theory of the psychological school in its most general aspect.³

¹ That they are not is sufficiently evident from the fact that Professor Clark has been in the main a member (and, as is everywhere recognised, a leading member) of this school.

² Cf. Dr. Gerhard Albrecht's review of Tugan-Baranowsky's new book *Soziale Theorie der Verteilung* (Jahrb. f. Nat. Oek., 111, 47, 1, p. 71). The review takes up the views of Oppenheimer and Liefmann, and also Dühring's anticipations of this distinction.

³ The extremely meagre outline of the theory of the psychological school given above follows in the main the writings of Professor F. A. Fetter, who goes perhaps as far as any member of the school in generalising the treatment of value problems. Cf. his

Men have wants. Some are primary and highly individual, — as hunger, — some of a complex social character. Things exist in great variety, capable of gratifying these wants in various ways and in various degrees. Men realizing this, through experience and reasoning power, make comparisons between things in respect of their various powers of gratifying various wants. Men also go to work to produce the things they want. In organized society there arises an elaborate specialization and exchange which vastly increases the aggregate possibilities of gratifying wants. The principle underlying this exchange is individual subjective valuation, partly conscious, — and based on calculation, — partly subconscious, and based on tradition, habit, fashion, imitation or what not. If two men enter into an exchange they have of necessity different relative valuations for the articles exchanged. The wants of both are better satisfied after the exchange. In all advanced societies money is used as the medium of exchange, and the valuations of things capable of gratifying wants work themselves out in the main in money prices. Durable agents, which assist in the production of consumption goods, are found to yield a series of services running through longer or shorter periods of time. When such things are bought or sold, — transferred in fee simple, — the thing conveyed is the right to the total future uses of the goods. This involves “capitalization,” the expression of the present

Principles of Economics, and also the following articles: — *Quarterly Journal of Economics*, Nov., 1900, p. 45; *American Economic Association Publications*, 3d series, vol. ii, pp. 240, 246, and vol. v, p. 197; *Political Science Quarterly*, Mar., 1902, p. 173; *Quarterly Journal of Economics*, Nov., 1902, p. 179.

One of the most conspicuous services rendered by Professor Clark to economic theory is to be found in the aid he has given in the generalising of the rent concept. Mr. J. A. Hobson's vigorous strictures on the particularistic treatment of wages, rent, interest and profit (in *The Industrial System*) are not, of course, directed at the psychological school. For in the constructive work done by this school the particularistic treatment had already been discarded.

value of the future uses. This is found to involve a rate of discount, — a use or service being generally considered of less present value if distant in time than if present or imminent. Through such a process capital valuations are put upon durable agents, and they too come to have an exchange or market price. The services of human beings go through a similar process of valuation. They are even capitalized in the case of slavery.

Now it will be seen that the whole direction of this process is from the use (or service) backward — sometimes through a number of steps, — to the good. It will be noted, too, that the whole thing is a process of *evaluation*. We have a reasoned explanation of the prices of things, — whether consumption goods, durable agents or human services. It is a study in the field of value. The question to be answered is, "What is the process by which the market prices of human services and material things (or their use for a limited period of time) are determined?" The attempt to answer this question has been regarded by some as a study of distribution.¹ And, as far as it goes, it is a study in distribution. Or at least it prepares the ground for a study of distribution. For the price of a human service is set by the actual payment of a wage, and the evaluation of things takes on actuality through the payment of rents (including interest) and prices. These wages, rents, and prices — together with the direct services of things not exchanged — constitute individual incomes. In value theory, however, they have been studied in their functional rather than in their personal aspects. A man is employed, and a machine is rented. Each renders a service. (Which simply means that each is a

¹ Notably, of course, by Professor Clark, whose productivity theory deals with the justice of distribution.

coöperating factor in the productive process.) For this service a price is paid in the one case as in the other. The wage of the man, the rent of the machine, and the capital values of both (taking the case of slavery where men are bought and sold) are all given the same explanation, — an explanation rising in wants and their gratification. But the mere study of the process of evaluation (which in itself has proved sufficiently difficult to tax the energies of some of our best economists) needs to be expanded into a fuller study than we have yet had of the forces which determine individual incomes. Not until this is fully done will the theory of value have borne its fruitage in a theory of distribution really deserving of the name.

To the writer it seems evident that the blurring of the distinction between the two is responsible for the rise and present vogue of the specific productivity idea. Had the problem been conceived as, in the first instance at least, merely a study of the process of evaluation, — had the ethical question of distributive justice been clearly visualized as a problem apart, the truistic pitfall of the specific productivity reasoning would have spread its allurements in vain. But with this distinction overlooked, and attention centered on the *quid pro quo* (the service) which is rendered in return for a wage or a rent payment, the undoubted existence of this *quid pro quo* led easily to the assumption of specific productivity, and to the comforting but fallacious equation of product and reward. There is a difference, however, between the mere coöperation of a factor in a productive process, and the specific creation by that factor of a distinguishable product. The fact that the services of a factor are desirable in the process of value creation does not mean that a particular part of the value created can be ascribed to the independent

agency of the factor. And this in spite of the fact that the total value product is the fund from which, in the long run, payment is made for the services of the factors.

The *quid pro quo* aspect of the wage valuation must not then lead us to identify valuable service with specific productivity. The distinction between the two is quite consistent with the doctrine of the psychological value theorists that value is ascribed because of the want-gratifying capacity of things and services.¹ And their insistence upon the direction of the valuation process, — that it is from human wants back to the things or services which are capable of gratifying those wants, — should make them immediately sceptical of the alleged equation of a wage valuation with a productivity which proceeds in a diametrically opposite direction. The writer hopes therefore for their acceptance of his view. Members of the other school, whose tendencies are naturally antagonistic to the contention of this paper, will, it is hoped, be induced to subject to a careful re-examination the reasoning on which the specific productivity thesis has been allowed to rest.

If, as the writer believes, that reasoning, through the unconscious use of a term in two different senses, rests upon a truism, from which no valid inference may be drawn, not only the productivity thesis itself, but its important social implications must be given up. These implications were originally stated by Professor Clark in the following words: —

This thesis we have still to prove; and more hinges on the truth of it than any introductory words can state. The right of society to exist in its present form, and the probability that it will continue

¹ The writer is not to be understood as taking any ground as to the influence of supply on price. This point needs more complete formulation than has yet been given it if the value theorists, while showing that supply itself is largely influenced by subjective valuations, are yet to be generally credited with recognising the truth which lies in the supply side of the stereotyped formula of "demand and supply."

so to exist, are at stake. These facts lend to this problem its measureless importance. The welfare of the laboring classes depends on whether they get much or little; but their attitude toward other classes, — and, therefore, the stability of the social state — depends chiefly on the question whether the amount that they get, be it large or small, is what they produce. If they create a small amount of wealth and get the whole of it, they may not seek to revolutionize society; but if it were to appear that they produce an ample amount and get only a part of it, many of them would become revolutionists, and all would have the right to do so. The indictment that hangs over society is that of “exploiting labor.” “Workmen,” it is said, “are regularly robbed of what they produce. This is done within the forms of law, and by the natural working of competition.” If this charge were proved, every right-minded man should become a socialist; and his zeal in transforming the industrial system would then measure and express his sense of justice.¹

We do, if we are successful, settle the great personal issues that range men in hostile classes. By discovering the law that fixes the rates of wages, of interest and of pure profits, we decide whether the man, A, has a grievance against B. We have not, indeed, thus ascertained why one of them has only \$500 a year, while the other has \$50,000; but we have ascertained something about the two incomes that decides whether each of them rightfully belongs to the man who gets it.²

Such comprehensive claims, however, would not now be made. Tho many economists today accept the productivity thesis, few, if any, draw from it such sweeping conclusions.

It was promptly pointed out ³ that justice is between man and man, — not between the factors in production. If the justice of our social order is to be established by any comparison of productivity and reward, it is not enough to show that payment is in proportion to the productivities of the respective factors, — the animate and the inanimate, the man and the machine. Since it is a question of justice with which we are concerned, the inanimate factors must be ignored. We need to

¹ *Distribution of Wealth*, p. 3.

² *Ibid.*, p. 6.

³ By Professor Carver. *Quarterly Journal of Economics*, vol. xv (Aug., 1901), p. 578.

be shown that the rewards of industry are distributed among *men* in proportion to their productive contributions. And when this necessity is realized, the social significance of the productivity thesis is very profoundly modified. It proves (if true) the injustice rather than the justice of society. If the factors in production, — animate and inanimate, — are paid in proportion to what they produce, such an arrangement will constitute a just division only in that inconceivable sort of a world in which there is a distribution of *ownership* in exact correspondence with the productive services of men.

The surrender of the social significance of the theory has been explicitly admitted in a recent defense of the productivity idea by Professor J. Maurice Clark. "All that the hypothesis will justify is the claim that income would measure deserving under ideal competition, granted at all times perfectly just distribution of property, education and opportunity."¹ This stops very far short indeed of the original contentions. And, as we have seen, not even this much is true. If then to Davenport's and Hobson's vigorous and varied criticisms be added the fact, that the thesis of specific productivity is demonstrated only by the employment of a vitiating truism, we must naturally ask ourselves what the residual element in the Clarkian system amounts to. It should be clear at once that what we have left is a theory of value as distinguished from a theory of distribution. The ethical idea of reward in proportion to product has gone by the board; there remains a strictly economic process of evaluation.

The question may still be urged, however, whether the rewards which go to the various factors in production are not an approximate or rough measure of pro-

¹ *Political Science Quarterly*, June, 1914, p. 319.

ductive contribution. To the writer the importance of the inquiry lies in the fact that the productivity theory, with its parade of scientific accuracy, is after all but a precise formulation of a widespread and deep-seated belief that, to a reasonable degree of approximation, a man gets out of his productive activities what he deserves. We deplore certain failures where a man seems to meet with disaster which could not have been anticipated or avoided. But in the main, business success is regarded as not only an index of ability but also a measure of social service and hence of social deserving. The truth and error in this view need to be very carefully disentangled.

The idea has already, within recent years, been subjected to scrutiny and correction. And this has come from critics of different sorts, ranging from the economist to the political agitator.

In the first place it has been repeatedly emphasized of late that personal income is made up of two elements, — that which is secured in return for labor, and that which comes from the ownership of capital. The social validity of the latter, as we have already seen, cannot spring from any product personally created by its owner. It must be sought in the circumstances which are taken to justify the ownership.

Secondly it has been shown that many incomes are the result of force or fraud, or inure to a man because he has catered to wants which are harmful to society. They are acquisitive rather than productive in the best sense of the word. Professor Davenport has been perhaps the most forceful theoretical exponent of this idea.¹ But in connection with particular economic evils it has come to be widely understood and even taken for

¹ Cf. his article, "Cost and its Significance," *American Economic Review*, December, 1911, p. 724.

granted. Food and drug laws would be unnecessary were all incomes the result of providing for the beneficial wants of society. Tenement house laws, mine and factory inspection, and a wide range of restrictive laws which are a commonplace to the present generation, all testify plainly to the fact that men can secure incomes through processes injurious to society. In a broad view, however, such cases seem to the writer exceptional. In the main, the man who manufactures and sells a product more cheaply than any one else has conferred a real benefit upon those who use it, and the income which accrues to him in so doing is an income which, tho disproportionate perhaps, is yet secured by virtue of a social service.

Now when all these corrections and exceptions are made and allowed for, where do we stand in general distributive theory if we deny the specific productivity thesis? Is it not true that functional incomes are a rough measure of service, and that (since it is through the saving of income that capital is accumulated) a rough proportionality exists between the earnings of capital and the productive services of its owners? The latter question is quickly disposed of. It would be true only if men were immortal and if they started originally on an equal footing. But men die and pass on their wealth to their heirs. The great question of inheritance introduces complicating elements into the problem, — to say nothing of the equally large question of the validity of original titles. But if we deliberately shut our eyes to the incomes which flow from the ownership of wealth, is it not true that the services of *men* are paid for roughly in proportion to the values which they produce? Are we completely in the wrong when we take a man's success in acquisition as in some sort a measure of his service to society?

One classical idea was that the price of a thing must be enough to bring the thing to market, — that is that each factor must receive enough to secure its services. Now this is the sort of proposition which cannot validly be generalized and made a basic explanation. It means very little to say that the prices of things in general must be high enough to bring them to market. How low, for example, might wages in general fall without a cessation of work? We cannot say. Probably very low. How low must rents in general fall in order that all capital should be withdrawn from the market? The chances are that capital would be utilized if it yielded very low rents indeed. All we can mean, then, is that in a particular line the price must be enough to secure the agents of production against the bidding of other wants. The true statement would be that a want, in order to be gratified, must be strong enough to win against other wants in a competitive bidding for the means of gratification, — it being understood that these means of gratification (which are labor and capital) have alternative possibilities of use.

It is precisely here that we see the entrepreneur performing one of his most important functions. His task is not merely the management of industry in the narrow sense, but the anticipation of the direction and strength of demand. In supplying the demand, he has certain costs to pay. He must pay enough to secure labor. This means not merely enough to induce men to work, but enough to divert labor from other lines. He must also procure the services of capital by borrowing, by renting or buying land, buildings, machinery, raw materials, etc. And, whenever he borrows, rents, or buys, he must offer enough to secure the agents he needs, which merely means to divert them from alternative uses where they would coöperate in the gratification

of other wants. Now the capital, the hired labor, and the entrepreneur form a coöperative productive group. Jointly they produce something, — a something which is calculated to gratify human wants. If the product sells for a price sufficient to make the contractual payments and to retain the services of the entrepreneur himself, the business goes on. The want which it supplies has won in the competition against other wants. If not, it fails, — and the direction of industry is altered.

Where business is successful, contract wages and interest are paid (a process which contributes to the evaluation of the services of the labor and capital concerned) and a sum is left over which goes to the entrepreneur. Wages are what the laborer gets: contract interest and rent are what the owners of borrowed or rented agents get. The sum which goes to the entrepreneur is that part of the total proceeds which he secures for the services which he offers. If, — as is commonly the case, — he contributes both capital and labor, his return is a return for the services of the two. From a general point of view it is not separable into interest and profit, or into interest, salary, and profit.

In the personal calculations of the entrepreneur, to be sure, it may be divided up. He may *call* a certain part of it the interest on his capital, and the remainder profit, or he may divide it into interest, salary, and profit, — setting down as salary the sum which he thinks he could command if he entered the service of another. But these are merely devices which assist him in visualizing the prosperity of his enterprise. They do not alter the fact that the business yields him a single lump sum in return for the services of himself and his capital. No contract or transfer divides it into either two or three parts.

Of the total amount to be distributed, then, there is a functional distribution of contract wages and interest (including rent). But in the case of the entrepreneur the industry does not make any functional distribution. It pays him a lump sum. "Not for his life" can the entrepreneur tell what part of his gain is due to his capital and what part to his labor. And by the same token it is impossible to distinguish between the "product" of the entrepreneur and of those whom he employs. Their rewards are matters of hard fact, but their specific productivities we cannot disentangle. The entrepreneur's share in distribution is an accurate measure of his acquisitive rather than of his productive powers. It is what he can get, not what he produces.

It is, to be sure, apparent to everybody that a rough (very rough) degree of correlation exists between ability and reward. All around us we see the able man succeeding, and the inefficient or lazy man becoming a failure. And a certain validity remains in our judgment of a man's character on the basis of his business success. Certainly it is *by virtue of* his contributing to the gratification of human wants that he gains his wages, or his salary, or his profit. But that his reward is in proportion to any supposed specific productivity cannot be shown. That a man has acquired a fortune in competitive business may tell us a good deal as to the man's sagacity, or will power, or business relationships. It also tells us that he has marketed a commodity which somebody wanted to buy, thus largely promoting the gratification of human wants. But he did not do it by his own unaided efforts. He was but a cog in the machine, — a large one, it may be, but inseparably integrated with the other cogs. We can get no information that is at all accurate as to the amount of his own separable contribution, his specific productivity. If

he has given his competitors a fair and square beating, he has, to be sure, proved himself more efficient than they in diagnosing wants or in combining the factors of production in such a way as to make the gratifying of those wants personally profitable to himself. But the productivity which has achieved the success is the productivity of a complex of factors of which he is the directing head. And it is no more possible to say what is the specific product of his labor (or of his labor and capital combined) than it would be to say what part of the cutting of the tree was done by Robinson Crusoe and what part by his ax.

If, then, it is urged that the reward of human services is a rough measure of productive contribution, we cannot assent unless the emphasis is placed very strongly indeed upon the word "rough." The ordinary view that income is an index of social service, in addition to being open to the various corrections mentioned above, assumes a specific productivity which it is absolutely impossible to disentangle. The productivity thesis has seemed to give a scientific sanction to a popular notion, which, while it contains a kernel of truth, is extremely inexact, and ordinarily overlooks some of the most essential elements in the problem.

We have then merely a theory of value, — a thing which falls short in two particulars of being a satisfactory explanation of the distribution of income among persons. In the first place it takes for granted the existing distribution of wealth, and, in the second place, it gives us competitive shares which are the result of a process of valuation, but not with any accuracy an index of productive contribution. In other words, what men would get, even under perfect competition (whatever that may mean), would not of any necessity

be an accurate measure of what, on the score of their supposed specific productivity, they ought to get. A thing which has no existence can hardly serve as a criterion of desert. When the efforts of men are merged in social or coöperative production, they can never be again "unscrambled" into specific productivities.

We shall, however, be giving up a great deal if we surrender completely the idea of specific productivity. It has been, even before its precise formulation by Professor Clark, a tacit tenet of economic thought. It is with us all a sort of rudimentary survival of the conception of things which included the "economic harmonies," the doctrine of *laissez faire*, and the dogma of the unqualified beneficence of the competitive process.

Let us, however, go wherever our analysis leads us. With the idea of specific productivity eliminated the process of valuation remains just what it has been, an orderly, systematic, incontrovertible thing, just as logical as any member of the Austrian school ever conceived it to be. But the distribution of personal income stands out for what it is, — a system of haphazard uncertainties, not merely skewed by the discrepancies of inheritance and original title, not merely vitiated in part by productivity of a predatory sort, but deprived of the erstwhile soothing correlation between reward and productive contribution.

Things-as-they-are have been the beneficiary of an overdone system of apologetics. The concept of specific productivity, both in the explicit form into which it has been cast by Professor Clark, and also as it appears disguised and latent in an uncritical approval of the competitive idea, has tended to blind us to the evil which is mixed with the good in our distributive arrangements, — has tended to make us, as economists,

more conservative than we have any right to be. *The Distribution of Wealth* has been denounced as the *apologia* of an unwarranted conservatism.¹ Denunciation, however, needs to be followed up by specific disproof. The error in the specific productivity thesis must be precisely located, and must come to be generally understood if it is to be deprived of the undue influence for conservatism which it undoubtedly continues to exercise even in the rarified and corrected form in which it is still cherished.

WALTER M. ADRIANCE.

PRINCETON UNIVERSITY.

¹ E. g., by Professor Wicker at the New York Meeting of the American Economic Association.

REVIEW

HOBSON'S WORK AND WEALTH¹

MR. HOBSON is not the least of a group — shall we call them super-economists? — whose criticism of the current system of economic life and thought is rendering valuable service in the cause of truth. In the present book he gives us his own theory of value and distribution, filling out the outline offered in the concluding chapter of an earlier volume entitled "The Industrial System." It is, of course, a theory of ideal value and distribution, for the actual system has already been made the target of his criticism. When a critic turns reformer and begins to construct, his friends may well fear for him and his adversaries thank him for giving them a better chance than ever before to hit back. And yet to return Hobson's fire in the name of science is like attacking Bergson for not being logical, since Hobson has renounced science as powerless to render a final decision in social disputes. Nevertheless, it is as a work of social science that Hobson's book must be appraised.

As such, the first striking feature it presents to the reader is the undefined and controversial nature of its fundamental concept; its value-yardstick. The author himself trusts that the idea of "organic welfare," which he takes as the standard of value, may assume definite shape in the mind of the reader by dint of many concrete cases, and that the reader, even if he disagrees with the author as to what, in any given case, the highest good of society demands, may still accept the same method of analysis and follow it in his own

¹ *Work and Wealth — A Human Valuation*, by J. A. Hobson, The Macmillan Co., \$2.00, pp. xvi, 267.

thinking. In other words, each separate discussion must stand on its own merits as an attempt to discover what course of action will best serve the social welfare in each particular situation.

Two features of this standard of value stand out sharply. It must arbitrate between good and bad desires; and it must include all the social consequences of everything it considers. Vicious consumption is thus a cost, and healthful labor a utility regardless of the pleasures of vice or the temporary fatigues of salutary work. Cost, in this scheme of valuation, assumes many aspects. It includes the necessary "keep" of the worker (page 44) and this in turn includes (1) the restoration of vital force spent in labor, and (2) the minimum reward necessary to induce the laborer to work — a very different thing, be it noted. Cost includes also such things as the "repression of personality" (page 50), the "surrender of (his) personal judgment" (page 53) and the "degradation of (his) highest quality" (page 45). One feels almost as if the millennium had been placed on the debit side of the ledger and one were invited to produce assets enough to balance the books.

The rule adopted for the reform of society is that of distribution according to needs, and the elimination of the heaviest human costs of production by direct social control, the goal being a condition of minimum cost and maximum welfare. Hobson's ideal man is so perfectly socialized that he will work as hard as is good for him, if his reasonable wants are provided for. Further incentives gauged according to efficiency will have no effect on him. "But as human nature actually stands, this stimulus to do a 'best' that is better than the average, must be regarded as a moral 'need' to be counted for purposes of remuneration along with the physiological needs" (page 168). Thus the two conflicting standards are made one — by a logical *tour de force*. Certainly, 'since social welfare is the ultimate standard, and since even for the individual the highest welfare lies in achieving the finest relationship to society, the man who demands an efficiency bonus is the farther from his highest possibilities;

he "needs" more to make him perfect. But this is a need that can hardly be met by giving him his bonus, for that would be a reward of badness, and tend to harden him in the error of his ways. What he "needs" is not more money, but the services of a social evangelist; possibly he needs both. But any extra wage that is granted him must, in common fairness, be granted also to his comrade who is altruistic enough to do his best work even without this stimulus. It will hardly do to leave the ninety and nine permanently in the wilderness. The net result would seem to be that with men as they are, an efficiency distribution is necessary, tho it may be superimposed on a minimum wage based on need. Further than this, Hobson's effort to reconcile the two standards fails to carry conviction, and this failure is probably the most serious weakness in the book.

In assessing the costs of production the dominant note is Tarde's distinction between creation and repetition. The ultimate conclusion is that work of the first kind which is its own reward may safely be left to private enterprise, while routine production, which is costly, must be socialized. "How can the creative work of the entrepreneur be entrusted to private enterprise while the routine work of his employees is under social control?" the reader may ask. The answer is that Hobson minimizes the creative element in the entrepreneur's work. To him, creative activities are chiefly those of art, research and invention, and the field of private enterprise is correspondingly narrow.

To many readers the worst fault of the book will undoubtedly appear to be the dearth of positive suggestion as to methods of installing the millennial system, involving as it does nothing less than a moderate form of collectivism. This lack is emphasized by the author's criticisms of state socialism on the one hand and of the industrial federation of the syndicalists on the other. Even on the fundamental question of interest no definite program is offered. We are told that there is much saving on the part of the poor which costs more than it is worth, and should not be undertaken at all. Other saving is "costless" and we may be able to

get all the capital we need from such sources without paying for it. But this would only be possible if the output of industry proved more than enough for all wants, short of those whose satisfaction is useless or positively harmful. Short of that happy state, Hobson's philosophy would seem to leave room for much giving and taking of interest. However, his purpose is not to prescribe the details of the millennium, but to make men see our industrial system as he sees it and to want a truly "human" distribution as he outlines it. This in itself is probably a sufficiently arduous undertaking. The book as it is traverses a marvelously wide range of material and draws on the work of many investigators, perhaps a bit superficially here and there, but most suggestively. Part of the material may be newer to English readers than to American, especially the citations from Veblen and Goldmark and the comments on scientific management. One phase of the latter subject which the author has neglected is the defense it offers against slack work in socialized industries, through its absolute measurement of a fair day's performance. Hobson prefers to rely on a developed "social will." The book will render service in many ways, but most of all, perhaps, by showing most forcibly that there are truly economic values more fundamental than those derived from exchange or measured by it, and that it is by these more fundamental values that we must test the institutions of property, contract, and the rest of the environment in which our "market values" have their being. Concretely, it might make an employer (if any employer of labor should chance to read it) realize that his most important product is in the minds and bodies of his laboring force.

J. M. CLARK.

AMHERST COLLEGE.

NOTES AND MEMORANDA

THE WAR AND THE FINANCIAL SITUATION IN THE UNITED STATES

THE war in Europe immediately subjected the United States to severe financial strain, because this is a debtor country in the international short-time loan market as well as on account of more permanent investments of foreign capital. Unlike London, the New York money market possessed no resources the liquidation of which would serve to offset payment for the enormous volume of securities which were sold on foreign account on the New York Stock Exchange during the week preceding the outbreak of hostilities. Before these sales began, the New York money market was in its normal mid-summer position. The banks held a surplus reserve of about 26 million dollars — not enough to be of much use under a system in which the required reserves are never fully utilized, but still almost as large as at the same date in the preceding year and somewhat larger than in July of 1912. Foreign balances were at a low level and a considerable amount had been borrowed in London by means of finance bills anticipating the proceeds of the cotton and grain bills of the autumn months. Past experience warranted the feeling that this practice, in moderation, involved no serious element of weakness. All former periods of severe financial strain had been primarily the result of unsound domestic conditions; and by means of temporary loans and sales of securities, additional funds from foreign sources had always been forthcoming.

The prospect of a general European war, to say nothing of its outbreak, created an entirely novel situation. Foreign lenders and investors endeavored to liquidate American as well as other securities with little regard to the sacrifice entailed. Since it was impossible to secure new loans in Europe, every maturing bill of exchange or short-time note

as well as all sales of securities by foreign holders on the New York Stock Exchange involved payments which could only be made by the shipment of gold. In the course of the week ending Friday, July 31st, over 44 million dollars was withdrawn from the banks for export, and a vastly larger sum would have been taken if underwriters had been willing to insure a larger quantity. It is important also to note that most American purchasers of these securities sold on foreign account assumed the possibility of securing with them as collateral the accustomed accommodation from the banks. Accordingly the transactions which were leading to the rapid depletion of the reserves of the banks through gold shipments were also creating an increased demand for bank loans. During the week ending with July 31st the cash reserve of the New York Clearing House banks and trust companies was reduced by 56 million, and a surplus of 26 million was converted into a deficit of 17 million; there being at the same time a slight increase in loans, amounting to \$1,182,000.

Drastic measures of relief were imperatively needed. The first and inevitable measure was the closing of the Stock Exchanges of New York and of other cities. Since the stock exchanges of other countries were already closed, the continuance of dealings on the American exchanges would have concentrated the pressure of liquidation upon the particular issues of securities listed here, in which foreign capital has been largely invested. With the closing of the stock exchanges, the transactions which were creating the bulk of the indebtedness immediately payable abroad were no longer possible. But in resorting to this means of relieving the situation, a new difficulty was created for the banks. All collateral loans, both time and call loans, became permanent investments for the banks until the resumption of dealings on the exchanges. Obviously the payment of loans could not be insisted upon when there was no market in which either borrowers or banks could sell the collateral securing them. Additional security was provided by many borrowers; and in some instances loans were reduced or entirely paid; but the banks were not able to insist upon such action. In other

words, the particular variety of loans upon the liquidation of which the banks mainly relied as a means of increasing their free assets was in this period of strain a wholly unavailable resource.

In these circumstances it was inevitable that the banks of New York and other cities should resort to the familiar device of the clearing house loan certificate for the settlement of balances between themselves. These certificates, however, merely enable a bank to defer cash payments with other banks in the same clearing house; they do not enable it to meet payments due banks in other places. Indeed, the use of the certificates is altogether likely to make it necessary for the banks to restrict cash payments, since a bank weak in reserve, even if it has a favorable clearing house balance, receives certificates instead of cash.

As in 1873, 1893, and 1907, resort to the clearing house loan certificate would probably have led to restrictions on cash payments but for the Aldrich-Vreeland Act of 1908, authorizing the issue of emergency bank notes. This Act, which would have expired by limitation in July, 1914, was fortunately extended for one year by the Federal Reserve Act of 1913. At the same time, the tax on the notes was materially reduced from a minimum of 5 % to 3 % during the first three months of issue, thereafter increasing $\frac{1}{2}$ % monthly until a maximum of 6 % is reached, contrasting with a maximum of 10 % according to the original act. The availability of these notes was still further increased by an act which passed through both houses of Congress on August 4th removing the requirement that no bank might take advantage of the act unless it was already issuing bond-secured notes to the extent of 40 % of its capital. At the opening of business in New York on Monday, August 3d, nearly 46 million of these notes were available, and a further supply was provided there and in other parts of the country as soon as the notes could be prepared and shipped. These notes have been generally used by the banks not only in counter payments to depositors but also in making settlements between banks in different places. They were also largely used instead of loan certifi-

cates in the settlement of clearing balances, because the tax on the notes was only 3 %, while the minimum rate of interest on the certificates is 6 % and in many cities 7 % or even more. The total of clearing house certificates was, therefore, smaller than on previous occasions. The amount outstanding against national banks on September 12, the date of the last return of the banks to the Comptroller of the Currency, was only \$52,779,000. The same return, contrasted with that of June 30th, showed an increase in the issue of bank notes of \$196,000,000. With these emergency notes the banks satisfied practically all demands for additional money for domestic use outside the banks, thus safeguarding their reserves, which between the two Comptroller's calls fell only \$65,000,000, not much more than the amount of money which was exported, and that deposited in the 5 per cent redemption fund in Washington. Thanks to the emergency notes, the banks maintained payments without restrictions in their dealings both with the public and between themselves. It should also be noted that the banks did not, as in all former crises, attempt to strengthen themselves by loan contraction. Between June 30 and September 12 loans and other investments increased \$307,000,000 or slightly more than four per cent, — a most satisfactory showing. It is a safe conclusion that, if similar notes had been available in former crises, the results would have been equally satisfactory. The dislocation of the domestic exchanges, the premium on currency, and the partial break-down of the check machinery of the country would have been avoided.

In thus relieving the banks from the necessity of using reserve money to meet domestic requirements, the issue of emergency notes placed the banks in a better position to meet the heavy foreign indebtedness already due on the first of August or maturing thereafter. The banks, however, exhibited no more readiness to allow their reserves to be used in meeting foreign payments than on former occasions when the withdrawals were for domestic purposes. From the beginning of August to the present time (October 27) gold payments were restricted. Quotations for demand sterling

were seldom below \$4.95, indicating a premium on gold of from one to two per cent. The course of our banks during former crises strongly suggests that the unwillingness of the banks to supply the gold necessary to restore foreign exchange to a normal level was not because gold rather than other reserve money would have been withdrawn. Whenever reserves have dropped very much below legal requirements, our banks have always restricted payments, if further withdrawals were threatened upon a large scale. In the past the demand has come from the western and southern banks. On this occasion it happened to be for the purpose of meeting foreign payments. We have here simply another instance of the uselessness, under the system soon fortunately to be changed, of the reserves of our banks when occasion for their use presents itself.

How much gold would have been taken for export if payments had been maintained cannot be determined. Estimates of the amount of indebtedness which became due offer no indication of the amount of gold which would have been required. Nearly all of the gold which might have been exported would have gone to London and by creating easier conditions in that market the possibility of securing new loans to take the place of maturing obligations would have been greatly enhanced. Moreover, foreign short-time loans to this market would doubtless have become more attractive, if we had shown a determination to continue cash payments, even in the midst of universal financial commotion.

Had the Federal Reserve banks been in full operation for a number of years, it is to be presumed that gold would have been furnished to satisfy all foreign requirements. It is probably fortunate, however, that the new banks did not begin business, as was originally expected, in June or July. While they might have been helpful, it is unlikely that they would have been able fully to maintain the normal course of banking operations. Partial failure to do so might have lessened confidence in the new system, and such confidence, it hardly need be said, is absolutely indispensable if it is to perform the functions for which it has been designed. The

fact that the system was not in operation at this time of crisis, sometimes declared unfortunate, was in reality a piece of good fortune.

The abnormal financial conditions abroad and the consequent extraordinary pressure for remittances from this country led to abnormal conditions in foreign exchange; nor can it be said how soon normal conditions will be restored. By means of a syndicate in which all the banks and trust companies of New York participated, arrangements were made in September to meet the largest single requirement for means of payment in London, — some 80 millions of New York City notes maturing at various dates between September and January. A gold pool of 100 million dollars, to which banks in the central reserve and reserve cities have subscribed in proportion to their present gold holdings, is now furnishing a certain amount of exchange against shipments of gold to Ottawa, where the Bank of England has opened a depository. These arrangements at first only served to steady the rate of exchange in the vicinity of \$4.96, but in conjunction with increasing merchandise exports and pronounced monetary ease in London they contributed to at least a temporary return to a normal exchange level in the last week of October. Should the present condition of monetary ease in London continue, it will doubtless be found possible to secure short-time credits there to take the place of a considerable amount of maturing obligations, in particular the numerous short-term railroad notes which are largely held in that market. It is interesting to note in this connection that London has already resumed to some extent the business of financing American foreign trade, both exports and imports. If, however, the course of events should bring on a long period of financial stringency in London, permanent normal exchange relations may be indefinitely postponed. A country which is heavily indebted to Europe is a passive agent in the present juncture and cannot control the forces which are disturbing its financial structure.

O. M. W. SPRAGUE.

HARVARD UNIVERSITY.

STATE GUARANTY OF BANK DEPOSITS IN
NEBRASKA

ONE of the amendments to the Currency Bill, proposed by the Owen Committee in the Senate, provided for the setting aside of one-fourth of the earnings above six per cent of the Federal Reserve banks, for the purpose of paying the depositors of failed national banks. In debating this plan, its advocates, especially Senators Hitchcock, Bristow and Reed, cited freely the state guaranty systems of Oklahoma, Nebraska, Kansas and Texas, asserting that these had proved entirely satisfactory and drawing the inference that national bank guaranty would be equally practicable.

After the Currency Act was passed, without the guaranty clause, the three Senators referred to were appointed as a Subcommittee on the Guaranty of Bank Deposits, in order that they might continue their efforts for the protection of national bank depositors. Senator Hitchcock, as chairman of this subcommittee, presented on June 23 last a *History of Guaranty of Bank Deposits*, by George H. Shibley, in which, after reviewing statements by the bank commissioners of the states having the guaranty, quoting their various statutes, and drawing liberally from the articles by Mr. Thornton Cooke in this Journal,¹ Mr. Shibley drew the rather unequivocal conclusion that "the guaranty of bank deposits has now become a demonstrated success, taken as a whole."

Considering that the state systems have been legally in effect only three years and a half; that the Oklahoma fund in that time ran \$375,000 behind its assessments, tho the latter averaged four-fifths of one per cent a year of the total deposits; and that in the other three states, crops and financial conditions have been so favorable that only about a half-dozen small failures have occurred in all, it would seem that the champions of national bank guaranty are using the argu-

¹ See vol. xxiv, "The Insurance of Bank Deposits in the West," and vol. xxviii, "Four Years More of Deposit Guaranty."

ment from example almost before the example exists. The experience of the states which are trying the guaranty system will certainly be of the greatest worth in demonstrating which method, or combination of methods — for the various systems differ considerably in detail — will be the fittest to survive; but the term “survivor” can hardly be applied to any of them until they have met the tests of short crop years, industrial depressions, and serious financial crises.

The course of guaranty in Nebraska, where agitation for it was begun long before the issue came into national prominence, shows what may be expected of such a system while it is new, working under favorable conditions. A brief sketch will here be given of the conditions which led to the law of 1909, as well as its effects, so far as they are apparent, and of the details of the method by which depositors are paid.

Banking in Nebraska, from territorial times in the '50's up to the first state supervision in 1886, was a good deal of the kind called “wild-cat,” yet failures were not so very numerous. In the “hard time” years of 1892 to 1896, however, came short crops and a nation-wide financial depression; and this produced a contraction of credits which swept 101 of the 650 state and national banks into insolvency. The claims against these institutions aggregated over \$5,000,000, on which it is estimated about \$2,000,000 were finally paid. The total deposits fell off from \$49,000,000 to \$27,000,000 in that six-year period.

It was the bitter experience in these years which led to the first agitation in the state for the guaranty of deposits. It is said that the president of the largest failed bank was the first man to suggest it, writing a letter to the newspapers outlining a plan, from the jail where he was awaiting trial for wrecking his bank. Secretary W. J. Bryan, then Congressman from the First District, introduced a bill for national bank guaranty into Congress in 1893. Guaranty bills were brought up in the Nebraska legislatures of 1897, 1899, 1905 and 1907, all of them crude and unscientific measures, with

no limit to the amount a bank might be assessed within one year. They were all opposed, of course, by the bankers, who saw from the record of '91 to '96 what an unlimited guaranty might cost them if a repetition of those hard times should occur.

The panic of 1907, however, and the adoption of the Oklahoma law which followed, added so much impetus to the movement that, altho no banks had failed in Nebraska on account of the panic, Mr. Bryan and the Democratic state leaders in 1908 were able to arouse enthusiasm over the guaranty plank in their platform. It is difficult to say what the result of the election would have been if the issue between Democrats and Republicans had been really on that plank. Probably the chief reason why a Democratic majority was sent to the legislature that year was the personal strength of Mr. Bryan at the head of the ticket. He lent his support to the measure after election, as did also the governor, and the party redeemed its pledge by enacting it into law. The law was enjoined from operation by the Federal Court until January, 1911, when the Supreme Court of the United States upheld its constitutionality in common with the guaranty laws of Oklahoma and Kansas. Its general provisions, as slightly amended by the legislature of 1911, are as follows.

The Depositors' Guaranty Fund of Nebraska is to accumulate up to one and one-half per cent of the average daily deposits for the whole state, at the rate of one-half of one per cent for each of the first two years, then one-tenth of one per cent until the limit is reached, at which time assessments are to stop. No money is actually paid out by any bank except its proportionate share of losses arising from failures; the assessments are simply charged off from its profits and entered to the credit of the Depositors' Guaranty Fund, which can be drawn upon by the State Banking Board. In case the fund becomes exhausted, emergency assessments may be made by the Board up to one per cent in any one year. Depositors in a failed bank are to be paid out of the fund as soon as the district court in charge of the receivership determines, from the claims filed, the amount of cash necessary, in

addition to that on hand in the bank itself. The fund is then reimbursed, so far as possible, by the sale of the failed institution's assets.

The effects of the law from 1909 to the beginning of 1914 were based chiefly on bankers' and depositors' guesses as to what the final results would be. During the first year bankers seemed, on the whole, to consider the business-getting qualities of the guaranty more than worth the premiums involved, for fifty-five new state banks were chartered, and only five former state banks became national to escape the law. Depositors were not much affected, one way or the other, for the deposits in both classes of banks, which had been exceptionally low in 1908 on account of the panic the year before, increased greatly in 1909, with little advantage to either.¹ In 1910, while the constitutionality of the law was still in doubt, the number and deposits of national banks grew considerably; 28 new state banks were chartered, but 8 of the old ones nationalized, and their aggregate deposits fell off over a million dollars. The law was upheld by the Supreme Court in January, 1911, and that year 24 state banks were chartered, 11 nationalized, and the national banks gained a million more deposits than the state. A number of state banks had also gone out of business by other processes than nationalizing, so that at the close of 1911 the state banks, as compared with their position two years before, were ahead in number only 7, in aggregate capital

¹ Items from statements of state and national banks at the end of years mentioned (taken from reports of the Secretary of the State Banking Board):

STATE BANKS

At End of Year	Number of	Capital	Loans	Individual Deposits
1908	628	\$10.9	\$35.7	\$55.4
1909	662	12.0	66.0	71.7
1910	666	12.5	67.9	70.4
1911	669	12.8	67.5	72.2
1912	694	13.8	78.2	80.7
1913	714	14.4	84.9	89.3

NATIONAL BANKS

1908	214	\$13.5	\$75.9	\$73.0
1909	220	14.4	89.8	83.8
1910	238	15.4	92.1	86.4
1911	247	16.2	95.0	89.0
1912	243	16.2	108.6	93.4
1913	241	16.27	102.9	94.6

The figures for capital, loans, deposits signify millions of dollars, e.g., \$10.9 = \$10,900,000.

only \$800,000, and in deposits \$500,000; while their national competitors had added 27 banks, nearly \$2,000,000 capital, and more than \$5,000,000 of individual deposits.

In 1912, 1913, and the first half of 1914, however, the drift was steady and rapid in favor of the state banks, indicating that these were becoming more popular with depositors, and that bankers were finding this system a little more advantageous than the other. The number of state banks increased about 70 in that period, while the total number of nationals fell off 17. Between January, 1911, when the guaranty law went into effect, and the middle of 1914, the individual deposits of state banks increased about 19 millions, or 27 per cent; as compared with a 7 million gain for the nationals, which is about 8 per cent.

The almost equal confidence in which both classes of banks were held, during this period, by the people, was due in a large measure to the fact that no failures whatever had taken place within the state for six years. In the past ten years there had been but three small state bank crashes, which did not attract much attention, and no national bank had become insolvent in fifteen years. During the first half of 1914, however, the movement of business toward state banks was greatly accelerated by two circumstances: the first case of immediate payment of depositors in a failed state bank presented a striking contrast to the delay and uncertainty of two national liquidations, one of the latter in the same town; and the Federal Reserve Act was passed, containing provisions so distasteful to several Nebraska nationals that they converted into state banks.

The First National Bank of Sutton, with about \$180,000 deposits, was the first to fail, in November, 1913. Two months later the First National of Superior was closed, having over \$300,000 deposits. The former seems to have suffered from the criminal actions of some of its officers, the latter from a policy of injudicious extension of credit. The First State Savings Bank of Superior, under practically the same ownership as the national, was able to survive the shock only three months, and was taken charge of by the State Banking

Board on March 9, 1914. Its deposits amounted then to about \$122,000.

When the state banks heard of this latter failure, they grasped its advertising value to themselves, and instead of being reluctant to contribute their share of what would be required from the guaranty fund, many of them wrote to the Secretary's office urging that the depositors be paid in full as soon as possible from the guaranty fund, so that they could point with pride to this example of how the state banks' customers were protected from loss. But there was no way by which the Banking Department could hasten matters. The law requires that at least three weeks be allowed for the filing of claims, and that an order of court be secured before the fund is drawn upon; so depositors cannot, ordinarily, expect to get their money within six weeks to two months.

In this case, however, a development occurred by which the depositors of the Superior state bank were paid as fast as they presented their claims, without even a day's delay. During the interval between the two failures, the other national in Superior converted into a state bank. When the receiver of the insolvent bank took charge and it was found that no cash could be had from the guaranty fund for a month or so, this newly reorganized State Bank of Superior offered to supply whatever cash was needed, in addition to the \$23,000 that was on hand when the savings bank closed, to pay all depositors who needed their money. Their claims were assigned to the new state bank, so that it could collect them in the regular way from the receiver as soon as the money from the fund was sent to him. This was of course a considerable accommodation, and the result was that the enterprising institution secured the larger portion of the business which had formerly gone to the savings bank. People from neighboring towns were a little anxious, but the patrons living in the vicinity of Superior made very little effort to draw out their money. Many of them had not presented their claims more than two months after the closing.

The likelihood of other banks accepting the claims without discount, because of the certainty of their being paid out of

the fund, was apparently not anticipated by the early advocates of the plan; but so strong is the inducement to people to leave their money on deposit with the bank which accepts their claims, that a similar action may probably be looked for in the future. If the practice does become general, the disturbance by failures to local business will be greatly lessened, which will be no small achievement for the guaranty system.

As soon as the receiver found that a trifle over \$54,500 would be required, in addition to what cash there was on hand in the bank, he called on the State Banking Board for this amount out of the guaranty fund. The Board had his report approved by the District Court in charge of the receivership, and then proceeded to draw upon every state bank in Nebraska for its proportionate share of the sum needed, which was .06241 of its credit to the guaranty fund. The accountant in the Secretary's office was overwhelmed with all these decimal calculations, until he finally discovered a machine with which he could grind out the assessments by turning a crank. The seven hundred-odd drafts were sent, about fifty days after the failure, to the receiver, who turned them over to the State Bank of Superior in return for the claims of like amount which it had bought up. It is expected that the sale of assets and assessment on stockholders will be sufficient finally to reimburse the fund.

In contrast to this tranquil experience for depositors in the state savings bank, is the misfortune of depositors in the First National of Superior, and of the national at Sutton. The latter bank has paid a dividend of ten per cent, the Superior national has so far (July 23) paid nothing. Consequently their creditors are still waiting for returns on some \$360,000 which they had delivered over to these banks in hard cash, and they may count themselves very fortunate if they get seventy-five per cent of it after several long years of waiting. It is easy to believe the following statement by one of the officers of the State Bank of Superior, the reorganized national:

"The feeling down here is all state bank now, and the last national in the county changed over to a state bank last week. . . . It

does n't make so much difference in the city, where you deal entirely with business men, but where your dealings are mostly with farmers, it's another proposition. There was n't a bank in the state that had the confidence of the people that the First National of Superior had. This confidence has been shattered, and now the cry is 'Money guaranteed' or nothing."¹

Several other banks in that section of the state thought best to make the same concession to the preferences of their patrons as did those of the above (Nuckolls) county. The City National of Holdrege, a fairly large country bank in a town at some distance from Superior, changed to a state charter, and sent out an advertising circular saying:

"This step has been taken in response to an increasing demand on the part of patrons of Nebraska banks for protection under the provisions of the guaranty law. This security cannot be furnished by a national bank, the guaranty feature having been purposely omitted in the new currency law."²

Fourteen nationals, in all, have converted into state banks since the first failure, last November. Some give as a reason their dissatisfaction with the new Federal Reserve Bank law, so that the effect of the guaranty system in this movement is obscured; yet there is little doubt that its influence is the stronger of the two.

That the new deposits coming to the state banks are in the nature of savings rather than commercial deposits is shown by the fact that almost \$11,000,000 of their \$19,000,000 gain, in three and a half years, is in time certificates of deposit,³ while the total number of depositors increased nearly 75,000. It is probable that much of the money now invested in state bank certificates of deposit at about four per cent has been brought out of hoarding, as was predicted by the early advocates of the guaranty system and claimed among its chief

¹ Letter to the writer, dated May 26, 1914.

² Omaha World-Herald.

Year	Time Certificates of Deposit	Total Deposits	Number of Depositors
1909	\$24.8	\$71.7	224,633
1910	26.4	70.4	230,067
1911	27.2	72.2	242,333
1912	32.9	80.7	266,669
1913	37.2	89.3	296,505

The figures for deposits signify millions of dollars; e. g., \$24.8 = \$24,800,000.

advantages. The national bankers, however, consider this large proportion of time deposits a menace, for they say that such depositors are the most timorous of all, and are likely to want their money at the first talk of danger.

In opposition to the state bankers' argument that the guaranty will produce such a feeling of security among the depositors that runs on guaranteed banks will not occur, the national bankers contend that in Nebraska, where no bank ever failed on account of a run, there is no real danger in this direction. Sooner or later, they say, a series of failures among all banks will come, the fund will be exhausted, and the state banks will be worse discredited in the public eye than if no attempt had been made to secure their deposits. The fund is already large enough to take care of the failures of normal times, — \$870,000, a little less than one per cent of the deposits. But the limit of one and one-half per cent is probably too low; two or three failures at the same time among the larger institutions would sweep the whole away. Then, if failures come one on the heels of another, as they do in a crisis, the fund must be bolstered up by special assessments that can be met only with the greatest difficulty by the sound banks, already having a strenuous struggle to meet their other obligations. If the one per cent beyond which assessments cannot be levied is not sufficient, some hastily devised system of deferred payment will be adopted. But meanwhile the frightened time depositors will have been drawing out their money; and between such withdrawals and the burdensome special assessments, the state bank system will be shaken through and through.

Both these sources of danger, the probable strain on the resources of many solvent banks, and the chance of a discreditable failure of the guaranty to meet depositors' expectations, could be removed by the establishment of a larger limit to the fund, and by specific provision for ultimate payment (after as much as possible had been paid from assets of the bank and assessment on stockholders) ¹ in the form of

¹ Mr. Cooke makes both these recommendations (see this Journal, vol. xrviii, p. 104), saying that the failure of the Oklahoma plan was due to the immediate payment provision as much as to any one cause.

interest-bearing warrants against the guaranty fund. In this way the assessments would be continued at the same rate in good times and bad, building up a large surplus before the crisis and gradually paying off the bonded indebtedness of the fund afterwards. If the state banks of Nebraska had been compelled to guarantee each other's losses from 1892 to 1896 by special assessments, these would have averaged one and one-half per cent of their deposits each year; but in the twenty years from 1892 to 1912 the losses averaged but two-tenths of one per cent of the total deposits.¹ Experience in the future will doubtless show that a successful guaranty system must devise means of creating its reserve by maintaining payments through the prosperous years, when it is easiest for the banks to pay, rather than by depending on special assessments to provide the money when it is needed.

As to the policy of leaving on deposit with the banks the full amount of their assessments, which Mr. Cooke regards as unwise,² the only alternative would be to collect the money and then re-deposit it. To minimize the risk, the board would undoubtedly divide it among several banks, so perhaps the safest way would be to distribute it all over the state. That is precisely what the present system amounts to. The fund can hardly be invested in mortgages or bonds, so long as we have the system of immediate payment, because it is of prime importance that the money be constantly available for immediate use. If the plan of ultimate payment were adopted, as in Kansas, our Board might invest the assessments in gilt-edged bonds, which it could sell in time to meet demand on the fund. The bankers, however, have been skeptical as to the safety of a large amount of money administered by the "politicians in the state house," because of the defalcations of several state officials in the past. One advantage in the present method, therefore, is that it reduces the antagonism of the contributors to the fund.

¹ Reports, Secretary of the State Banking Board, 1892 to 1912.

² "This is an arrangement that might easily lead to trouble. Insurance premiums, for that is what these assessments are, should be paid over to the insurer, not held by the insured, subject to all sorts of claims and processes if the insured happens to think his insurance is proving too expensive." — In this Journal, vol. xxiv, p. 356.

Nebraska's experience seems to confirm the prophecy which was made, that a guaranty system would compel the experienced and legitimate bankers to protect themselves against the operations of rascals and incompetents within the system, and thus protect the public. The united efforts of our bankers have been transferred from fighting regulation and guaranty, as was often done until 1909, to demanding stringent regulation for the prevention of dangerous and speculative methods of business. The same act which created the fund also contained various provisions designed to make banking less hazardous to the depositor.¹ The other states have had the same experience. The excellent banking department, to which Nebraska owes much for the high standard of its state banks, will doubtless find its hands upheld more and more by the bankers, who have a new incentive for helping to prevent failures.

To conclude: Nebraska's experience indicates that in a system of efficiently organized banks, under fairly normal conditions, state guaranty is feasible and not unfair to the bankers. Whether it will survive under conditions of adversity, such as must be expected sooner or later to come, remains to be seen. If it does survive, it will facilitate considerably the commerce of the state and will relieve an important cause of individual distress.

Z. CLARK DICKINSON.

UNIVERSITY OF NEBRASKA.

¹ For example, the five per cent limit on interest paid on time deposits, limit of loans to ten per cent of deposits, criminal penalties for failure to comply with any part of the law, Secretary's discretion as to need of new banks.

BOOKS RECEIVED

- American Protective Tariff League. *Protective Tariff Cyclopedia*. New York: published by the League. 1914. pp. 159. \$1.00.
- American Sociological Society. *Papers and Proceedings of the Eighth Annual Meeting, Vol. VIII*. Chicago: University of Chicago Press. 1914. pp. 183. \$1.50.
- Bailward, W. A. *Some Recent Developments of Poor Relief*. London: P. S. King & Son. 1914. pp. 46. 6d.
- Belgium, Ministère de l'Industrie et du Travail. *Industries de la construction mécanique, Tome IV*. Brussels: J. Lebegue. 1914. pp. 352.
- , Ministère de l'Intérieur. *Annuaire statistique de la Belgique et du Congo Belge*. Brussels: A. Leigne. 1914. pp. 574. 2fr.
- , Ministre des Finances. *Tableau général du commerce de la Belgique avec les pays étrangers*. 1913. Brussels: Établissements Généraux d'Imprimerie. 1914. pp. 413.
- Bulkeley, M. E. *The Feeding of School Children*. London: G. Bell & Sons. 1914. pp. 278. 3s. 6d.
- Carnegie Endowment for International Peace. *Report of the International Commission to Inquire into the Causes and Conduct of the Balkan Wars*. Washington: Carnegie Endowment. 1914. pp. 413.
- Coleman, C. B. *Constantine the Great and Christianity*. New York: Longmans, Green & Co. 1914. pp. 258. \$2.00. (Columbia University Studies, Vol. LX, No. 1.)
- Davies, Emil. *The Collectivist State in the Making*. London: G. Bell & Sons. 1914. pp. 267. \$1.60.
- Emin, Ahmed. *The Development of Modern Turkey as Measured by Its Press*. New York: Longmans, Green & Co. 1914. pp. 140. \$1.00. (Columbia University Studies, Vol. LIX, No. 1.)
- Fantl, Gustav. *Die volkswirtschaftlichen Gefahren des Buchforderungskredites und ihre Bekämpfung*. Vienna: Mans. 1914. pp. 34. M. 1.
- Fisher, Irving. *Why the Dollar is Shrinking: A Study in the High Cost of Living*. New York: Macmillan. 1914. pp. 233. \$1.25.
- Graham, Stephen. *With Poor Immigrants to America*. New York: Macmillan. 1914. pp. 306. \$2.00.
- Hamilton, J. G. de Roulhac. *Reconstruction in North Carolina*. New York: Longmans, Green & Co. 1914. pp. 683. \$4.00. (Columbia University Studies, Vol. LVIII.)
- Haney, L. H. *Business Organisation and Combination*. New York: Macmillan. 1914. pp. 523. \$2.00. (Revised edition with additional chapters.)
- Haynes, John. *Economics in the Secondary School*. Boston: Houghton, Mifflin Co. 1914. pp. 93. \$0.60.
- Higgs, Henry. *The Financial System of the United Kingdom*. London: Macmillan. 1914. pp. 218. \$1.60.

- Hough, B. O. (Editor). *Ocean Traffic and Trade*. Chicago: La Salle Extension University. 1914. pp. 432. \$3.00.
- Johnson, J. F. *Money and Currency*. Boston: Ginn & Co. 1914. p. 423. \$1.75. (Fifth Revised Edition.)
- Joseph, Samuel. *Jewish Immigration to the United States*. New York: Longmans, Green & Co. 1914. pp. 209. \$1.50. (Columbia University Studies, Vol. LIX, No. 4.)
- Keating, Joseph. *The Drink Question*. London: P. S. King & Son. 1914. pp. 105. 6d.
- Leeson, Cecil. *The Probation System*. London: P. S. King & Son. 1914. pp. 191. 3s. 6d.
- Lyon, Hastings. *Principles of Taxation*. Boston: Houghton, Mifflin Co. 1914. pp. 133. \$0.75.
- McLaughlin, A. C., and Hart, A. B. (Editors). *Cyclopedia of American Government*. Vols. II and III. New York: D. Appleton & Co. 1914. pp. 773, 785.
- Marot, Helen. *American Labor Unions*. New York: Henry Holt & Co. 1914. pp. 275. \$1.25.
- Massachusetts Board of Labor and Industries. *First Annual Report*. Boston: Wright & Potter Printing Co. 1914. pp. 64.
- Morris, Margaret Shove. *Colonial Trade of Maryland, 1689-1715*. Baltimore: Johns Hopkins Press. 1914. pp. 157. \$1.00. (Johns Hopkins University Studies, Series XXXII, No. 3.)
- Nearing, Scott. *Reducing the Cost of Living*. Philadelphia: George W. Jacobs & Co. 1914. pp. 343. \$1.25.
- N. Y. Department of Labor. *Directory of Trade Unions, 1914*. Albany: J. B. Lyon Co. 1914. pp. 104.
- Ohio Industrial Commission. *Wages and Hours of Labor of Women and Girls in Mercantile Establishments in 1913*. Columbus: J. F. Heer Printing Co. 1914. pp. 33.
- Riley, Franklin L. (Editor). *Publications of the Mississippi Historical Society*, Vol. XIV. University: Mississippi Historical Society. 1914. pp. 325.
- Robbins, E. C. *Railway Conductors: A Study in Organized Labor*. New York: Longmans, Green & Co. 1914. pp. 183. \$1.50. (Columbia University Studies, Vol. LXI, No. 1.)
- Roulleau, Gaston. *Les règlements par effets de commerce en France et à l'étranger*. Paris: Dubreuil, Frèrebeau & Cie. 1914. pp. 204. (Essay receiving a prize from the Statistical Society of Paris.)
- Royce, Josiah. *War and Insurance*. New York: Macmillan. 1914. pp. 96. \$1.00.
- Seligman, E. R. A. *Principles of Economics*. New York: Longmans, Green & Co. 1914. pp. 711. \$2.50. (Sixth Edition, Revised.)
- U. S. Bureau of Corporations. *The Lumber Industry*. Washington: Government Printing Office. 1914. pp. 264, 933. Parts II, III: Concentration of Timber Ownership in Important Selected Regions; Land Holdings of Large Timber Owners. Part IV: Conditions in Production and Wholesale Distribution including Wholesale Prices.
- U. S. Bureau of Labor. *Lead Poisoning in the Smelting and Refining of Lead*. Washington: Government Printing Office. 1914. pp. 97. (Industrial Accidents and Hygiene Series, No. 4.)
- U. S. Commissioner of Corporations. *Taxation of Corporations, Part V: Mountain and Pacific States*. Washington: Government Printing Office. 1914. pp. 236.
- Untermeyer, Samuel. *Reasons and Remedies for our Business Troubles*. New York: Privately Printed. 1914. pp. 19. (An address before a Commerical Club.)

- Vedder, H. C. *The Gospel of Jesus and Problems of Democracy*. New York: Macmillan. 1914. pp. 410. \$1.50.
- Weld, L. G. *Decisive Episodes in Western History*. Iowa City: State Historical Society of Iowa. 1914. pp. 44.
- White, A. D. *Fiat Money Inflation in France*. Toronto: Privately printed. 1914. pp. 76. (New Edition, revised and enlarged.)
- Williams, E. H. *The Question of Alcohol*. New York: The Goodhue Co. 1914. pp. 121.
- Wolf, Julius. *Die Steuerreserven in England und Deutschland*. Stuttgart: Ferdinand Enke. 1914. pp. 56. *M.* 2. (Finanzwirtschaftliche Zeitfragen, 13 Heft.)
- Wright, Thomas. *Christian Citizenship*. London: P. S. King & Son. 1914. pp. 80. 6d. (Catholic Studies in Social Reform, Vol. VI.)

THE
QUARTERLY JOURNAL
OF
ECONOMICS

FEBRUARY, 1915

WOMEN'S WORK AND WAGES IN THE
UNITED STATES

SUMMARY

I. Changes in women's work, 1900-1910. Trade and transportation, 203. — Manufactures; the continuance of the industrial revolution, 204. — Domestic and personal service workers, 206. — II. Wages of Women in the United States, 207. — Minimum wage means a living wage, 208. — Various investigations of actual wages, 209. — Effect of lost time and seasonal occupation, 210. — III. Causes of Low Wages, Lack of mobility, 212. — Youth, 213. — Race and immigration, 217. — Woman as a member of a family group, 222. — IV. Minimum wage legislation and the potential labor supply, 228. — Possible prolongation of the working years, 229. — Probable attraction of more women into industry, 230. — Part time workers may be transformed into full time, 230. — V. Conclusion, 232. — Needed measures of support for the minimum wage legislation, 234.

I. CHANGES IN WOMEN'S WORK, 1900-1910

MINIMUM wage legislation became an established fact in nine American states in 1913. In at least as many other states there exists an active propaganda for similar enactments. There is, in consequence, wide interest in questions relating to women's position in the industrial field. As a result we have an excellent and growing literature dealing with these questions of public interest and policy. The initial inquiry may well be: what is the field of women's work in the United States? with the subordinate question: is the nature of her work changing?

The census of 1910 shows a total of 7,608,000¹ female wage earners as compared with 5,319,000 in 1900. This is an increase of 43 per cent. In the same decade the number of females 10 years of age and over had increased but 22 per cent. The table following shows in column I the distribution in 1900 and in 1910 by percentages of women workers among the various occupational groups; in column II the percentages of all workers in the occupational groups who are females in these two census years; and in column III the increase in number and in percentage of women workers in 1910 as compared with 1900. The significance of the first column is to disclose which occupational groups are attracting a larger and which a smaller percentage of the total number of women workers; of the second column to show in which occupational group women are gaining, and in which losing ground, as compared with male workers; and of the third to allow a comparison of the increase of women workers in the occupational groups on a numerical and a percentage basis.

	I Per cent of all Female Workers in the Group		II Per cent of all Workers Female		III Increase of Women Wage Earners	
	1900	1910	1900	1910	No.	Per cent
Domestic and Personal Service	39.4	34.4*	37.5	48.9	526,000	25
Manufacturing and Mechanical Pursuits	24.7	23.2*	18.5	16.4	459,000	34
Agriculture	18.4	17.6*	9.4	10.6*	362,000*	37*
Professional Service	8.1	8.8*	34.2	36.9	242,000	56
Trade and Transportation .	9.5	15.8*	10.6	15.8	699,000	139
Total	100.0	99.8	18.3	20.1*	2,289,000 ²	43*

¹ Vol. iv, Occupation Statistics. This is the corrected figure given on p. 23.

² Ibid., pp. 41 and 57. I have used the corrected figure here also. Figures affected are indicated by an asterisk.

The field of domestic service returned a smaller percentage of the women workers in 1910 than in 1900. The percentage of increase shows that an increase of a half million in the decade is about normal since the total number of women of working age increased 22 per cent. The only marked change shown here is in the increase in the percentage of domestic workers who are female, from 37.5 to 48.9. This clearly indicates a withdrawal of men from these occupations. As a consequence women have a much stronger hold on this, their traditional occupation. Agriculture also claims fewer women in each thousand women at work in 1910 as compared with 1900. In each 1000 agricultural workers of all kinds, however, there were 106 women in 1910; and but 94 in 1900. Tho this increase in the proportion of women to men is considerable, the increase in absolute numbers of women is not striking, and the probability that closer enumeration in 1910 renders the comparison incorrect is great. There is no indication that women are finding a new field here. The gain of women in the professions has been nearly balanced by gains of men. Moreover, the increased number of female workers is nearly all accounted for by those listed as teachers, in the schools and of music and art. New departures here are negligible.

The most striking change disclosed by the table is the enormous increase in the number of female workers in trade and transportation. In each 1000 women wage earners in 1910, 158 are in these occupations. No more than 95 were so engaged ten years earlier. Of each 1000 workers in this field in 1910, 158 were women; but 106, in 1900; and, finally, this group of female workers shows a gain in absolute numbers of nearly 700,000, or 139 per cent. No other occupational group shows so great a gain in numbers; none other approaches their

percentage gain. Analysis of the group in detail shows evidence of new departures in women's work. The field itself is rapidly expanding, as is indicated by the fact that, despite the enormous increase in the number of female workers, in each thousand workers there are but 52 more women than in 1900. Among the various occupations listed here, the saleswomen were most numerous in 1900. They show in 1910 a gain of over 100,000 workers. This is an increase of 67 per cent, or much in excess of the general rate of increase for all women wage earners. But in 1910 their numbers are nearly equalled by the clerks and copyists, with 232,000 workers. This group shows a gain of over 170 per cent. The stenographers and typewriters have, for the first time, passed the saleswomen in point of numbers. Their total is 263,000, and has increased over 200 per cent in the decade. There were 185,000 female book-keepers and accountants in 1910, and their percentage of increase was 150. There were nearly 100,000 telegraph and telephone operators, with a gain well over 300 per cent. Female retail merchants increased in numbers from 34,000 to 62,000, or 82 per cent. Obviously the conclusion to be drawn is, that the development of large-scale business has furnished a field adapted to women's abilities. This field they are entering in numbers exceeding those of men. If there is any radical change in the nature of women's employment, it is in this field. It may be noted in passing that the change is welcome; in addition to the desirable enlargement of women's field of employment, the occupations most rapidly expanding call for education and special training and so rank with the better paid fields of women's employment.

Examination of the returns for women at work in manufactures in 1900 and 1910 discloses evidence of the

steady advance of the industrial revolution. The statistics indicate that women are not gaining ground in this field. The percentage of increase is lower than in any other occupational group, except that of domestic service. Yet readjustments of far-reaching importance are being carried out here. Preparing food, fashioning garments, serving meals, laundering clothes, together with a thousand and one related and subsidiary operations, these are steadily being transferred from the homes to the factories, restaurants and laundries. Significant examples of such change are not far to seek. It is stated that Wisconsin does 50 per cent of the canning of peas in the United States. Of the 75 factories in the state, but four were established before 1900; 21 have been built since 1908.¹ The average number of women wage earners engaged in candy factories was about 14,000 in 1899; 26,000 in 1909. There were 10,000 aiding in preparing bread and bakery products in 1899; nearly 17,000 in 1909.² In the textiles, while the number of women employed in the long established cotton industry increased but 20 per cent, the number employed in hosiery and knitting mills doubled. The combined occupations of dressmakers, milliners, and seamstresses made a gain in the decade of but 10 per cent. In comparison may be placed a gain of 78,000 women workers, 43 per cent, in the combined industries of men's and women's clothing and men's furnishings. The number of women employed in producing shirts, collars and cuffs increased 58 per cent in the decade; glove makers, 87 per cent.

There is evidence of this transferral of work from the home in other fields than manufacturing. Among

¹ Bulletin Industrial Commission of Wisconsin, October, 1913, p. 3.

² Census figures which follow are drawn from vol. viii, *Census of Manufacture*, and vol. iv, *Occupation Statistics*.

domestic workers, laundresses numbered 335,000 in 1900, of whom 325,700 were handworkers; less than 10,000 were employed in steam laundries. In 1910 this occupation included 597,000 women, of whom 520,000 were hand workers, and 76,000 steam laundry operators. The increase of factory workers was over 600 per cent; that of home workers less than 60 per cent. Again, of servants and waiters combined, there were 1,284,800 in 1900, of whom 1,242,000 were servants and 42,800 were waiters. In 1910 the combined figure was 1,495,000, of whom 1,309,000 were servants, a slight increase, and nearly 86,000 were waiters, a gain of over 100 per cent. These examples and others which might be given illustrate the continued progress of the industrial revolution. Obviously the change now taking place affects most largely the fields traditionally occupied by women. Just as the New England women followed their work as spinners and weavers from the rural home to the urban factory, women today, if they are to maintain their position as preparers of food and garments, must leave the home for the factory. Thus work is being transferred from family control to corporate management. The home is less a workshop. The family is no longer the industrial, tho it remains the social unit. Where this transformation will stop is not yet apparent. The past decade shows a rapidity of change seldom equalled, and we may expect, with the growing urbanization of our population, a continuance of this rapid movement. It is to be noted that this brings more women within the ken of the Census. It means more work done by women outside the home, tho there may still be room to doubt whether it means that the total amount of work done by women is greater. It thus means that increasing importance will attach to problems of women's work and wages.

II. WOMEN'S WAGES

It is to the women workers in the rapidly expanding field in trade and transportation, the shifting field in manufacturing, and to certain groups in the domestic field, as waiters and laundry workers, that investigation and discussion of minimum wage laws have principally related. It should be emphasized at the outset that the term minimum wage is, in a sense, a misnomer, since our legislation has defined a reasonable living wage rather than the bare minimum necessary to eke out a comfortless existence. Of the eight states, excluding Utah's flat rate, defining the measure of a minimum wage, all are practically in line with California's statute, which declares that it should be "not less than a wage adequate to supply to such women and minors the necessary cost of proper living and to maintain their health and welfare."¹ And so far as the phraseology of the statutes has found practical application in the acts of wage boards and commissions there is clear evidence of an intent to carry out such a liberal interpretation. These early wage determinations, under the statutes, and the results of various investigations, agree that such living wages under American conditions will be more than \$8.00 per week.² There is substantial agree-

¹ With this may be compared the statement of Sidney Webb: "The object being to secure the community against the evils of industrial parasitism, the minimum wage for a man or woman respectively ought theoretically to be determined by practical inquiry as to the cost of the food, clothing and shelter physiologically necessary, according to national habit and custom, to prevent bodily and mental deterioration. Such a minimum would, therefore, be low, and though its establishment would be welcomed as a boon by the unskilled worker in the unregulated trades, it would not at all correspond with the conception of a 'living wage' formed by the cotton operatives or the coal miners." "The Economic Theory of a Legal Minimum Wage," *Journal of Political Economy*, 1913, pp. 993-994.

² A detailed statement of the estimates of various boards and commissions will be published by the present writer in the *Quarterly Publications of the American Statistical Association* for March, 1915.

ment also that \$7.00 represents about the level of a bare existence.

If these figures represent the level above which eight states are pledged to hold women's wages and the goal toward which other states with active minimum wage propaganda are striving, it becomes of highest importance to learn what the actual level of wages is and how great the proposed change may prove to be. In answering this inquiry we have abundant, tho not always entirely satisfactory, data. The investigation of the Bureau of Labor covered over 100,000 women wage earners 16 years of age and over. These were found in the cotton, men's clothing, glass and silk industries; in factories and in various selected industries. Unfortunately only a small proportion of the 35,000 workers in stores can be classified as to age. Of these 100,000 workers, 18.6 per cent received under \$4.00 in the representative week for which wage quotations were taken. Nearly 49 per cent received under \$6.00; and nearly 77 per cent under \$8.00. This leaves but 23 per cent of these workers receiving the living wage agreed upon by our minimum wage investigations, and suggests that fully 50 per cent received less than the amount which investigators agree represents the lowest subsistence wage. The more comprehensive report of the Census Bureau in 1905 covered more than 588,000 female workers over 15 years of age, in manufacture, and gives almost identical results: it shows 18.4 per cent receiving under \$4.00 per week; 49.8 per cent under \$6.00; and 77.9 per cent under \$8.00. The reports of the Immigration Commission dealt with industries in which immigrant, and by inference low paid, labor was especially prominent. The age division was put at 18 years and the wage limits quoted at \$5.00

and \$7.50. Without presenting the evidence in detail it may be stated that approximately half of the females over 17 years of age listed received less than \$7.50 per week.

To this may be added the general results reported in the admirable intensive study made of cotton, confectionery, laundry and store workers by the Massachusetts Commission on Minimum Wage Boards. This included nearly 12,000 women over 18 years of age, of whom nearly 10 per cent received less than \$4.00 per week; 38.9 per cent under \$6.00; and 68.6 per cent under \$8.00. There is available a wealth of data from other states, cities and industries, which serves to re-enforce the conclusion that of women at work, *i. e.* those 16 years of age and over, outside the homes and the professions, almost half earn less than \$6.00 in a representative week; and approximately three-fourths less than \$8.00. It is obvious at once that any attempt to raise the general level of women's wages to \$8.00, or even \$7.00 per week, will mean a vast amount of rearrangement of wage scales, labor forces, and possibly of industries.

It should be noted here, however, that the wage investigations have reported actual earnings, while the basis of the reports of the wage commissions has rather been rates of wages. These rates of wages, in some instances at least, including an allowance for unemployment.¹ The correct measurement of this allowance thus becomes a matter of prime importance if the wage boards are rightly to estimate the living wage intended by the statute. Unfortunately at this point our information is woefully inadequate. We have

¹ The Kansas City study allows \$1.00 for "incidentals, sickness, unemployment." See Report on the Wage Earning Women of Kansas City, p. 80. Several estimates include an allowance for a vacation.

indications that the allowance should be considerable. Thus, the Bureau of Labor investigation made certain comparisons between actual and full time earnings in the representative week. Workers in cotton mills in New England earned from 80 to 87 per cent of full time pay; in southern mills from 76 to 80 per cent, if we omit the abnormal case of the doffers who made but 60 per cent of full time pay. Women working on men's clothing lost from 10 to 13 per cent of each week, in Chicago, Rochester, New York, and Philadelphia; and over 20 per cent in Baltimore. Female silk workers in New Jersey show a loss of from 6 to 15 per cent in various important occupations, the most frequent percentage being nine. The losses were greater in Pennsylvania in practically every case.¹ Since the great majority of female workers are but little skilled, it is highly significant that the lowest percentages of lost time are incurred by the more skilled women. So far as these indications go it would seem very conservative to conclude that, on the average, women workers lose 10 per cent of full time earnings in each week. Which is to say that on the basis of a \$7.00 or \$8.00 minimum wage, something like 80 cents would need to be added to cover the loss through unemployment if the present organization were to continue.

Even so, the allowance would only cover time lost within the week. The effect of seasonal fluctuation and lost weeks and months is still to be reckoned with. For the measurement of this loss data are almost entirely

¹ The Connecticut Report shows:—

	No. of Workers	Average Actual Weekly Earnings	Computed Full Time Earnings	Percentage of Actual to Full Earnings
Cotton (p. 67.).....	942	\$8.05	\$9.17	87.7
Silk (p. 91)	1175	6.26	7.40	84.5
Metal (p. 200)	2544	6.50	7.41	87.7

lacking. We are not yet in a position to make any scientific measurement of such loss in the various trades. That it is of the greatest importance in certain seasonal trades in which women are most largely engaged is generally believed.¹ A suggestive comparison may be made between weekly and annual earnings of women in manufacturing pursuits as reported by the Immigration Commission:

	No. Re- ported ²	Aver- age Week- ly Earn- ings	For 52 Weeks	No. Re- ported ³	Actual Annual Earn- ings	Percentage Actual Earnings of 52 Times Average Weekly
Native Born, Native Parents:						
White	9,019	\$7.91	\$411.32	338	\$365.00	88
Black	17	6.80	...	10	106.00	..
Native Born, Foreign Parents	15,930	8.11	421.72	875	339.00	80
Foreign Born	32,746	7.90	410.80	2,386	284.00	69
Totals	57,712	\$7.96	\$413.92	3,609	\$304.00	73

Here the number reporting annual earnings is too small to insure its representative character, but the suggestion is that lost time, other than the loss of hours during the week, may amount to from 12 to 30 per cent for women workers.⁴ The table shows, also, greatest loss for the least efficient worker. Such a loss must prove beyond

¹ Van Kleeck, *Artificial Flower Makers*, p. 72. "A rough comparison would indicate that the tax made by irregular employment on the income of flower makers amounts to about two dollars a week — a sum by no means insignificant." *Ibid.*, *Women in the Bookbinding Trade*, p. 86. "But the estimate of yearly earnings shows that even though bindery girls find other work in dull season the median yearly income from all their occupations is about \$308.00, indicating a loss of more than \$50 in twelve months. This is not a small loss when the fact is realized that very few bindery girls earn \$500 or more in a year."

² *Imm. Comm.*, vol. xix, p. 113.

³ *Ibid.*, p. 123.

⁴ Cf. *Massachusetts Report*, p. 51. This shows a loss of 64 cents per week because of lost weeks sustained by 469 candy workers who worked a full year for the same firm. This is based on a weekly average of less than \$6.00, pp. 158, 539; laundry workers lost about 18 cents per week, on the same basis.

the reach of minimum wage legislation,¹ the most probable remedy being found in reorganization of the industry.

III. CAUSES OF LOW WAGES

Aside from the loss caused by unemployment, the earnings of women fall below the level approved by wage commissions for various reasons. Of considerable importance is the fact of the immobility of the female labor force. Women are less independent, less able to move than are men. The husband and father is the chief wage earner, and other members of the family perforce accompany him to his most advantageous location. Men flow naturally to any point offering opportunities for labor. It seems more natural for the employer of women to take his plant to the labor force.² This interference of family ties with the mobility of woman wage earners results in congestion and consequent low wages in certain localities or even in sections of partic-

¹ The only comprehensive figures available are from the Census of 1900, Volume on Occupations, pp. cccxxv, and cccxxviii.

WOMEN WAGE EARNERS, TEN YEARS OF AGE AND OVER, UNEMPLOYED FOR

	1-3 Months		4-6 Months		7-12 Months		Total	Per cent of all Females in the Group
	No.	Per cent	No.	Per cent	No.	Per cent		
Domestic and Personal Service	151,000	42.2	149,000	41.7	57,700	16.1	358,000	17.1
Trade and Transportation	21,900	39.3	19,500	34.9	14,400	25.8	56,000	11.1
Manufacture	147,000	50.0	140,000	35.4	43,000	14.6	294,000	22.4

The table indicates that a very considerable percentage of women workers are unemployed some part of the year, and that of those so unemployed, over half are idle for four months or more. We are warned, however, that "caution must be observed in reaching conclusions based solely upon" these statistics.

² See for example, Bureau of Labor Report, vol. iv, p. 47; a statement that inducements were offered silk mills to enter the anthracite coal region. Vol. xviii, p. 253; a paper box manufacturer enlarged his plants in a Polish neighborhood to take advantage of the cheap female labor there available.

ular localities.¹ This would seem the true reason for the lack of standardization in women's wage noted by certain investigations.² Ten cents a day for carfare may easily negative search for employment beyond walking range if the weekly wage be very low.³ This factor, however, is of local importance only. However much it may oppress the individual worker or whatever its effects in dictating the location of women employing industries, it does not affect the general wage level.

Of prime importance in determining the low wage of women workers is the question of age.⁴ Youth and low earning capacity are found together. In the New England cotton industry ⁵ of 9,246 women over 21, but 10.6 per cent earned under \$4.00 per week and 39 per cent earned over \$8.00. Over two-thirds earned over \$6.00. Statistics for Massachusetts show that these percentages are maintained in practically all age groups to the age of 55. On the other hand, in a total of 1,638, 16 and 17 years of age, nearly a quarter earned less than \$4.00 and less than 12 per cent earned over \$8.00. Of 2,860 aged 18 to 20, 15.7 per cent earned under \$4.00 and 23.4 per cent over \$8.00. Corresponding data for southern mills show a similar situation. Full earning capacity is not reached before the age of 21. The

¹ *Ibid.*, vol. iii, pp. 406 et seq. This is strikingly illustrated in the glass industry. A comparison of four unskilled occupations in thirteen establishments within a radius of fifty miles of the central one shows a wide variation in wages. In grinding, for example, wages vary from \$3.60 to \$8.70 per week. The comment is: "women glass-makers are so far from being a completely mobile labor force that even moderate mobility is rather uncommon. The reason is clear. Such persons for the most part are active members of families."

² This runs through the Massachusetts Report. See p. 12 where the explanation is "the personal equation of the employer," and "the helplessness of their employees."

³ Van Kleeck, *Flower Makers*, p. 74. "Flower makers in New York do not come from a distance to their work. They live near by and save carfare. Only nine of those interviewed reported that they paid carfare going to and from the shops."

⁴ Bureau of Labor Report, vol. v, p. 25. "It would seem, therefore, from the study of both age and experience that one of the determining factors in the wage problem is age."

⁵ Bureau of Labor Report, vol. i, pp. 699-706 and 715-716.

numbers reported in the age groups are highly suggestive. In New England the years 16 to 20 inclusive include almost a third of the women reported; in southern mills, almost a half. Similarly in the men's clothing industry,¹ full earning capacity is reached at 21, and maintained to 45 years of age. About 35 per cent of those within these ages earned more than \$8.00 per week. Of those 18 to 20 and 45 to 54 years of age but one-fourth attained that result. While of those 16 and 17 and 55 and over, only one-ninth earned so much. It is then highly significant that more than half of the 10,700 workers covered were under 21 years of age. In both of these industries the number of female workers over 45 years of age is very small.

Combination of the statistics of twelve important industries reported by the Bureau of Labor gives the following results:²

AGES AND WAGE GROUPS IN TWELVE SELECTED INDUSTRIES

Age	Number	Per cent Under \$4.00	Per cent Under \$6.00	Per cent Under \$8.00	Per cent Over \$8.00
16-17	9,918	28.4	69.0	91.5	8.4
18-20	13,769	19.2	57.1	79.9	20.1
21-24	8,617	10.1	35.3	69.1	30.9
25 and over	11,904	12.6	36.8	66.1	33.9

The combined results thus secured are similar to those in the cotton and men's clothing industries. Full earning capacity is not reached before 21 years of age. Even among those beyond this age, hardly a third reached the limit of a living wage in the representative week. Yet we note that there were more workers aged 16 to 17 reported than from 21 to 24; and more aged 18 to 20 than for all ages 25 and over. This is the com-

¹ Bureau of Labor Report, vol. ii, pp. 596-599.

² *Ibid.*, vol. xviii, pp. 436 et seq. The industries were: Cigarettes, Cigars, Confectionery, Corsets, Crackers, Hardware, Hosiery, Paper boxes, Shirts, Enamelled Ware, Tobacco, Woolens.

bined result of twelve important industries. A careful examination of the other evidence¹ in the bureau's report and in various state investigations adds nothing to the above showing except the assurance that these are in every respect typical data. Overlooking local and industrial variations the conclusion is justified that full earning capacity for women workers is not reached before the age of 21, and that earnings decrease after 45 and in some cases earlier.²

The statistics presented offer evidence as to the relative number in each age group, but in view of the importance of this factor the more comprehensive report of the census may be stated. For this inquiry the Census of 1910 is highly unsatisfactory. It shows that 7.9³ per cent of all female workers are under 16 years of age; 22.9 per cent from 16 to 20; 53.3 per cent from 21 to 44, and 16 per cent 45 and over. There is, however, no division of the large and highly important group of workers aged 21 to 44, and no occupational classification by age is given. In 1900, 9.2 per cent were under 16 years of age, 23.3 per cent of all women at work were from 16 to 20 years of age; 16.9 per cent from 21 to 25, and 22.0 per cent from 25 to 35. This means that nearly half the female workers were under 25, and over seven-tenths under 35 years of age. In manufacturing 36 per cent were under 21; 54 per cent under 25, and 77 per cent under 35. The corresponding percentages are even higher in trade and transportation. The data of the two Census reports are not strictly comparable, because of the fact that the percentage of

¹ Especially suggestive are the displays of hourly earning by sex and age in detail. These show clearly the rise and fall of earning capacity, and emphasise strongly the connection of youth and low wages.

² Bureau of Labor Report, vol. ii, p. 146. Men's Clothing Industry. "The information conveyed by these tables may be summarised as follows; Earnings between the ages of 21 and 34 are better than before or after."

³ Census, 1910, vol. iv, p. 69.

children at work has somewhat decreased in the decade; but there is nothing to indicate that the percentage divisions within the limits 21 to 45 have changed.

Available data, then, suggest that of all women at work in America in manufacture and trade almost one-fourth are from 16 to 20 years of age. Of this fourth probably half earn under \$6.00 per week, and 80 per cent under \$8.00. Another fourth are from 21 to 25 years of age. Of these one-third earn under \$6.00, and from 60 to 70 per cent under \$8.00. The smaller numbers of more advanced ages employed do not receive higher average wages. It is an evil combination that is found here: lack of skill, training, and experience, joined with the irresponsibility of youth, and great congestion in the labor market. The recurring statement in the bureau report is that the demand on these female workers is for dexterity and speed.¹ These qualities are possessed in youth and are offered in abundance. Skill and training these workers neither have nor attempt to acquire. For their working life is to be short and they are forced by economic pressure to seek the highest present earnings. They have followed their work from the home to the factory. Through marriage they intend to make good their retreat to the home. This expectation is realized; for, omitting the negro women, less than four per cent of married women are returned as breadwinners. The higher earnings reported for women, then, are received by comparatively few, those who remain in the shops after the great mass of their fellow workers have left. Their gain in experience and skill accounts for part of the gain in wages; increased seriousness and steadiness for more. They earn more. But the evidence shows

¹ E. g., Bureau of Labor Report, vol. xviii, p. 131. Confectionery workers. "What the girls do is quickly learned, and requires chiefly deft and rapid movements, so that years add little to a worker's earning capacity, if indeed, they do not decrease it."

little progress after 21, and loss after 45. Here, then, is a worthy suggestion for another line of attack upon the low wages of women aside from minimum wage laws. Every rise in the age limit for entering employment; every agency for better training; every influence lengthening the period in home and school, exerts a more than proportionate influence on wages. For it attacks the problem at the point of greatest intensity. It relieves the extreme pressure of over competition in the labor market exerted by those having only docility, deftness and speed to offer. It alleviates the self exploitation of these over eager sellers of the qualities of youth.

Of scarcely less importance than the question of age is that of race. Consider first, evidence from the cotton industry correlating age, race, and wages. The basis of comparison followed here is hourly earnings. This avoids the disturbing effects of fluctuations in employment. The report¹ covers 8060 female workers in Massachusetts cotton mills. It indicates a strong massing of numbers in the years 16 to 24 inclusive; 3991, nearly half the female workers, being of those ages. The maximum hourly wage of all races combined is 15.4 cents per hour earned by 965 females at the ages 35 to 44 years. From 25 to 34 years earnings are 14.8 cents, and from 45 to 49, 15.1 cents. They consistently exceed 14 cents in the age group 22 to 39 except for 338 workers, aged 23, earning 13.8 cents. These ages include 3705 of the 8060 women.

The most significant fact in the table is that the Americans and each of the races of older immigration have maximum earnings in excess of those for all workers and in general attain their maximum efficiency as late or later. On the other hand, the races of newer

¹ Bureau of Labor Report, vol. i, pp. 718-719.

immigration have lower maximum earnings and in general attain their highest efficiency in a much earlier age period. The 629 Americans have maximum earnings of 16.3 cents attained by 31 workers at 30 to 34 years of age. Hourly earnings are over 14 cents in the age period 21 to 54 years, except for 21 workers aged 23 earning 13.8 cents. These ages include 257 of the 629 workers. The French Canadians have maximum earnings of 15.5 cents earned by 92 workers at 40 to 44 years of age, and again by 27 at 50 to 54 years. Earnings are in excess of 14 cents per hour during the entire period from 24 to 59 years of age, covering 849 out of 2108 workers. The highest maximum of all is attained by the English workers, 20 of whom, from 45 to 49 years of age, earn 17.7 cents per hour. Their earnings exceed 14 cents per hour for the full normal working life, that is, from 18 to 64 years of age. This includes 673 of 862 workers. The Irish women have a maximum earning capacity of 16.1 cents attained by 201 workers from 35 to 39 years of age. They consistently earn in excess of 14 cents per hour from 22 to 54 years of age. These years include 1037 out of 1608 workers.

Far different are the results for the races of newer immigration. Italian women number 66, and attain their maximum hourly earning power of 13.7 cents at 21 years of age. Four earn this. Next highest are four others, aged 30 to 39 years, who received 12.3 cents. Of 1440 Polish workers, maximum earnings are reported for 76 workers aged 24 earning 13.2 cents per hour. The 263 women just older, aged 25 to 34, earn 13.1 cents. No others earn as much. The Portuguese women are the only race of newer immigration of whom any are reported as earning in excess of 14 cents. The maximum, 14.6 cents, is reached by 55 women aged 22, and 65 others aged 25 to 29 earn 14.3 cents; 7, aged

45 to 49, earn 14.5 cents. This makes 127 of the 588 workers.

Similar evidence is drawn from the men's clothing industry.¹ Here the table of hourly earnings covers 6050 females over 16 years of age, by race and cities, but the study does not give the age division in detail. Following the division between Americans and older immigrants, and the newer immigrant races, we find that the 326 Americans earn in excess of 14 cents per hour in each city, except Baltimore, where earnings in general range lower. Here 62 American women earn 9.2 cents per hour. The maximum is 14.8 cents received in Chicago. The 801 German women earn over 14 cents, except in Philadelphia and Baltimore, where earnings are 13.8 for 95 women, and 10.1 cents for 31 women, respectively. All but one of the 213 Scandinavians reported are in Chicago and earn an average of 17.7 cents per hour. The 851 Bohemians are from Chicago also, with the exception of 5, and earn 16.4 cents per hour.

Of the newer races the 1063 Hebrew women have a maximum of 13.5 cents earned by 102 workers in Philadelphia; 385 in Chicago earn 13 cents; 202 in Baltimore, 10.9 cents — the minimum for the group. The Italian women number 1587. Their maximum earning capacity is attained in Chicago where 265 women earn 12 cents per hour; 802 in New York earn but 10.5 cents. This is the lowest quotation for this race, except for 18 workers in Baltimore earning 10.2 cents. Six hundred and thirteen of the 692 Polish women are in Chicago, and earn 14.2 cents, the maximum for the group. This is below the general average for Chicago of 14.8 cents, and is exceeded by the Americans and each of the older immigrant races in that city.

¹ Bureau of Labor Report, vol. ii, p. 197.

Of the 115 Lithuanians reported, 77 are in Chicago and have earnings of but 10 cents an hour. This is the minimum reported for the group, tho they never receive so much as 12 cents an hour. Further evidence of the relation of race to the question of wage, and more particularly of the relation of recent immigration to the question of low wages for women workers may be found in other volumes of the Bureau of Labor report and in that of the Immigration Commission.¹ It is perhaps less exact and complete, less readily presented, but all lends support to the general conclusion that among the youthful and ill paid female wage earners, the immigrant women are the worst paid of all. What happens is that these women, lacking knowledge of American conditions, of the language and of the condition of the labor market, without specialized skill, training or aptitude, with the lowest standards of living, and driven by the severest economic pressure, snatch eagerly at any opportunity for employment and any wage which may offer.

To these disabilities they add that of extreme youth. The Census of 1900 showed that nearly 50 per cent of all foreign born women aged 15 to 24 were at work. The corresponding figures for the native born white classes are 20.1 per cent for those of native parentage, and 37.5 per cent for those of foreign parentage. All these handicaps can only be overcome by accepting lower wages and harder conditions of employment.² The

¹ See for example, vol. i, p. 367, *Wages of Women over 18 in the cotton industry*, where practically every group of new immigrant women falls below the general average wage, as practically every other group rises above it. Similar results are shown in other industries.

² See e. g., vol. xviii, Bureau of Labor Report, p. 239, discussing the cause of Americans leaving the industry of nuts, bolts, and screws. The reason most generally ascribed being "that the work had so many unpleasant features and paid so little that only the poorest and most ignorant of recent immigrants were willing to undertake it." Cf. vol. xviii, p. 328, and Butler, *Women and the Trades*, pp. 228-229. "Two-thirds of the women in the metal trades are Slavs, Hungarians, Germans, Polish, and Croatian . . . recent immigrants . . . foreign women who ask neither for comfort nor for cleanliness nor higher wages."

ready acceptance of both conditions by recent immigrants has earned for them the ill will of their fellow workers,¹ and has often resulted in discriminations against them by employers.²

Unfortunately the results of the Census of 1910 so far as published do not furnish data for estimating the importance of the newly immigrated with low standards of living in the problem of women's work and wages. As noted above, the age divisions are defective. Such as they are, they are not correlated with nativity groups or occupational classification, and beyond this there is no attempt to present a classification by race, age, and occupation. The vast immigration in the last ten years makes data from the 1900 census obsolete, but it must serve in default of better evidence. The significant fact here is the exceedingly high percentages among the foreign born in the younger age groups including those 15 to 24 years of age. It thus results that while the total foreign born women of these ages represent less than 12 per cent of all white women of these ages, still foreign born wage earners represent 20 per cent of all at those ages. This is to say, that in 1900 these foreign born youthful workers — least efficient, on the basis of the wage statistics, of all such workers, — represented one-fifth of the labor supply at those ages. Since that date we have had an enormous immigration drawn, for the most part, from the sections of Europe where the lowest standards of living prevail. It is most unfortunate that the Census has not furnished corresponding statistics for 1910, or given us the data by races; they could hardly fail to show an increasing proportion of foreign born women in the younger and least efficient age groups.

¹ Miss Van Kleeck speaks of the Italian flower workers in this connection. See also Bureau of Labor Report, vol. i, p. 116, and vol. ii, p. 195.

² Bureau of Labor Report, vol. iii, p. 418.

Adding, then, industrial inefficiency to the fact of this abnormal proportion of youthful workers, we realize the importance of this factor in the problem of women's wages. It represents nothing short of a massed assault on the existing wage scale. It bears down the present standards — unsatisfactory as they are — by sheer weight of numbers and inefficiency. If minimum wage laws are to be interposed as a barrier for the protection of women wage earners, common prudence would seem to dictate a counter attack to check and drive back this assault. Bearing in mind the gap between actual earnings and the standards adopted for the minimum wage it would seem evident that the champions of the new legislation will be ardent advocates also of some limitation of the free immigration of women workers, at least such limitation as will exclude those of greatest inefficiency and lowest standards of living.

It is well known that these foreign born women are for the most part, not independent workers, but members of families. They live at home and the great majority of them turn their earnings into the family treasury. The youthfulness of women at work would suggest that this was the typical situation of all nativity groups. Such a situation would have large influence on the wage situation. An answer to the question, what proportion of working women live at home, is found in the Bureau of Labor's investigation of stores and factories.¹ This shows that 77 per cent of over 2000 women in stores, and 82 per cent of over 5000 women in factories live at home.² The Census in 1900³

¹ See vol. v, p. 15.

² Cf. McLean, *Wage Earning Women*, pp. 29, 54, 72, and 82.

	No. Reported	Living at Home	Per cent at Home
New York	1,476	1,304	88
Chicago	1,914	1,618	84
New England . .	1,289	1,021	79
New Jersey . . .	824	714	87

³ *Statistics of Women at Work*, pp. 25-26.

attempted a study of the family relationships of 1,232,000 working women in 27 cities. This shows 64.8 per cent living at home and 35.2 per cent boarding. Boarding is defined to include those living with their employer, — obviously a very important inclusion when servants and waitresses are concerned. Omitting these workers, we have 905,000, of whom 80.9 per cent are living at home 14.4 per cent as heads of families, 33.7 per cent living with their fathers, 15.5 per cent with mothers and 17.2 per cent with some other relative. Of the native born of foreign parentage only 12.3 per cent are boarding; of native parentage 26.6 per cent; of the foreign born 22.6 per cent; and of negro women 17 per cent. There seems to be no significant variation in the percentages living at home when the division is made by conjugal condition, except that of foreign born, and of negro, married and widowed women relatively small percentages are boarding. There is considerable variation by cities, but only four cities, including Boston, show more than 25 per cent boarding.

Of importance also is the number of breadwinners found in the families of which these workers were a part. Of the 905,000 women included, 70 per cent were living in families in which there were other breadwinners; among these, in 24 per cent there was one other; 20.8 per cent, two others; and in 25 per cent at least three others. Considering only the single women, 73.6 per cent were living in families with other wage earners present. The percentage rises to 82.7 per cent for single workers of foreign parentage, and is 66.8 per cent for those of foreign birth. Of the 678,000 single women included, 19.1 per cent are boarding and but 6.5 per cent of those in homes are in families in which there is no other wage earner. It may be added in regard to the 19 per cent boarding, that it by no means neces-

sarily follows that they are all dependent entirely on their own resources.

Investigation of the expenditure of earnings disposes effectively of the importance of the "pin money" worker as a determining factor in wages. Recent reports are a unit in declaring that such workers are the rare exception; too few to seriously affect the general situation.¹ Further, the investigations show conclusively that the larger part of the earnings of women living at home is turned into the family treasury. Thus in the Massachusetts report it is stated ² that 78.5 per cent of the candy workers gave all they earned to the family; 20.3 per cent gave part. Among store workers, where the result is not affected by the presence in large numbers of foreign workers, 61.8 per cent gave all, 39.4 per cent gave a part. It is noted that the age runs higher among these workers. The laundry workers make a similar showing: 60 per cent contribute all their earnings; 39.1 per cent a part. Figures for the glass industry ³ allow a nativity comparison. It is shown that 227 children, 16 years of age and over, contribute 86.4 per cent of their earnings to the family. The native born whites, of native parentage gave 81 per cent; those of foreign parentage 85 per cent; and the foreign born, over 90 per cent. In the case of races of the newer immigration practically all the wage goes to the family treasury. Particularly in the case of the Slavs and Italians, it is declared "a social custom for the mother of the household to act as treasurer, and to receive the earnings of the working members."

¹ For example, the Massachusetts Report (pp. 79, 140, 175) found only 1.2 per cent among candy workers, 3.3 per cent of 2,376 store girls, and less than 1 per cent among the laundry employees. All reports seem a unit in presenting similar results.

² Massachusetts Report, pp. 79, 140, and 318. Miss McLean gives useful percentages. See the pages noted above.

³ Bureau of Labor Report, vol. III, pp. 527-528. This may be compared with the various reports of the Immigration Commission.

Some part of the wage may occasionally be returned to the older children.

In the case of girls in stores and factories as covered by the Bureau of Labor Report ¹ the question of disposal of wages is correlated with age. It is rarely true in the various cities that the percentage of girls living at home who contribute no part of the wage rise to 5. Of women 25 years of age and older it is generally true that over 50 per cent give all their earnings. In New York 76 per cent of 190 factory girls over that age contribute their entire wage. Younger girls, as would be expected, almost always show higher percentages.²

It boots little to multiply illustrations, for the conclusion reiterated and enforced by the unanimous declarations of the investigation of many industries and localities, of the various nativity groups and races, and at all ages, is that the typical female workers are the 80 per cent living at home and contributing the larger part of their earnings to the family treasury. The "pin money" worker is proven a false, if not a "vicious" theory. Twenty per cent of the girls at most are independent workers. The remainder — a proportion great enough to be controlling — are constituent parts of a close knit family group.³ The pains of their labor

¹ See vol. v, pp. 19-21.

² The Connecticut Report gives the following results, p. 253.

CONTRIBUTION TO FAMILY INCOME							
	NUMBER	ALL		PART		NONE	
		No.	Per cent	No.	Per cent	No.	Per cent
Native White;							
Native Parentage	454	280	61.6	164	36.1	10	2.2
Foreign Parentage	887	620	69.9	259	29.2	8	.9
Foreign Born	660	493	74.6	163	24.7	4	.6
All	2,001	1,393	69.6	586	29.2	22	1.1

³ Cf. Report on Lawrence Strike, p. 20. "These wages, however, are not peculiar to Lawrence. The wages of textile workers in that city are not lower than in most other textile towns. The plain fact is that the textile industry, so far as earnings are concerned, is in large part a 'family industry.' It gives employment to men, women, and children. The normal family of five, unless the father is employed in one of the comparatively few better-paying occupations, is compelled to furnish two wage earners in order to secure the necessities of life."

are reckoned in the sacrifices of the family; their earnings merge in the family income. Tho the effect of this condition has been well enough understood by the employers,¹ it has been misinterpreted on the basis of the "pin money" theory. It has not been recognized, or at least not accepted, in the current minimum wage reasoning. There, it has been postulated that the female worker is, or at least ought to be, an independent worker entitled to sufficient wages for full self-support. Any industry paying less is forthwith termed parasitic. However desirable this may be from an ideal standpoint, the actual situation is otherwise. The true social unit here is the family. It has a certain potential labor supply. Its members have certain desires for leisure, for education, for the various goods that make up income. They escape the pains of labor when possible, saving their necessary or strongly desired income. Normally, in the long run, workers cannot be secured for less than an income sufficient for full support at the established standard, including allowances for support in the period of youth and old age, for training and for the replacement fund. But temporarily the wage may fall in evil times to the minimum sufficient for the scantiest supply of food. The satisfaction of all other wants is deferred to a more favorable season. It is better to labor for the pittance than to starve. In the family a similar situation exists. The father's wage is insufficient for the family needs at the customary standard. If the daughters were independent units in the labor supply and if there was no pressure of economic necessity, the wage offered must be as large as full support for the present and past years would require. But since the family must maintain all its

¹ Butler, *Women and the Trades*, p. 346. "We try to employ girls who are members of families," a box manufacturer said to me, "for we don't pay the girls a living wage in this trade."

members in any case, it takes stock of its available labor and sells at the market rate. As in the case of railroad transportation, the price may fall in the worst case near to the extra cost involved in performing the extra service. In this case this service is represented by the labor performed by the daughter. The family foregoes the payment for the period of youth and training. There is nothing to set aside for old age. Recreation is foregone; education neglected. The wage may be less than the necessary cost of the daughter's support. But that support is a part of the irreducible "fixed charges" of the family treasury, and if the labor of the child will yield any contribution to the hard pressed exchequer of the family, it is accounted worth while — even necessary. This is quite as true and quite as well justified by the logic of the situation as the cut rate offered by the traffic manager of the bankrupt railroad.

It is this bankrupt condition of the working families that dictates the entrance of youthful female workers into industry. It is severer pressure met by lower economic strength that causes an increase of the percentage of females, 16 to 20 years of age and at work, from 20.8 per cent for the native born of native parentage to 40 per cent for those of foreign parentage and to 56.8 per cent for those of foreign birth.¹ Wages are low for women at work primarily because, with the increasing pressure of population, and the influx of families bringing low standards of living joined with scant industrial efficiency, it becomes necessary for more members of the family to bear a portion of the family's labor sacrifices and this through a longer term of years. The inevitable result is severe competition among these workers of lowest standards, least skill and efficiency,

¹ Census, 1900, volume on Occupations, p. cxviii.

and consequent low wages. Thus dictated by necessity, it is justified by results in the economics of the individual families. It is unjustifiable only from the larger viewpoint of its effect on the character of the national citizenship. It is from this viewpoint that it is attacked with the weapon of minimum wage laws, and rightly so. But there is certain loss involved in misinterpretation of the character of the position attacked. One error of the forces backing this legislation lies in regarding each female worker as an independent labor unit. Instead the true labor unit is the family. Despite the change following the industrial revolution, solidarity and coöperation in the bearing of labor sacrifices are still the typical condition there.¹ The wage of the working woman can only be understood when the interpretation is made on that basis.

V. MINIMUM WAGES AND THE POTENTIAL LABOR SUPPLY

Closely associated with the above discussion of the effect of the family condition of working women on their wage is a further factor in the situation which minimum wage boards and commissions must consider. This is found in the presence of what may be called a potential labor supply. There are indications that in the case of female labor this supply may be very great. Thus a special study made of the adoption and abandonment of occupations by native born white women, due allowance being made for deaths and migration, shows that the women aged 15 to 24 in 1890, and advanced to the age 34-39 in 1900, made a loss of 24.5

¹ Cf. Van Kleeck, *Flower Makers*, p. 72. "Economic pressure is recognised as an important factor in the wage bargain, and signs are not lacking to indicate that the wage received is in inverse ratio to the pressure. It is the worker nearest starvation who is most liable to accept starvation wages," and the complaint of the home worker, p. 110, "Flowers is cheap work now. The boss used to pay much better. But there's always poorer and poorer people and they'll do it for less. They have a lot of children, and it don't take them long to make a dollar. So they do it for less than us."

per cent in the numbers of breadwinners.¹ In round numbers 274,000 more of these women abandoned the wage earning field, than adopted it, during that ten years. This loss is more than 5 per cent of the total number of women wage earners 15 years of age and over — 5,007,000 — returned in 1900. In the next age group, those 25–34 in 1890, there is a loss of 33,600, or 7.5 per cent. In the next two, those 35–44 and 45–54 in 1890, a gain of 18.3 per cent and 10.1 per cent respectively, and in the final period, — those 55 and over in 1890, — a loss of 4.6 per cent. The gain in the two periods mentioned is slight among native born women of foreign parentage, being 5.8 per cent and 5.7 per cent respectively — less than 4000 women. The gain at that age is explained as due, in large proportion, to the taking up, by widows of farmers, of the occupation of their deceased husbands. The conclusion is, that among native born women workers a net loss of well over a quarter of a million results from the abandonment of their wage earners' status by those who had been so engaged in the ages 15 to 24. This loss is made good, of course, by the entry of new thousands of young girls. It is quite within the possibilities that a rise in the wage offered, from the existing rates to a minimum wage of \$8.00 or \$8.50, may induce no inconsiderable percentage of those native born women to postpone their abandonment of industry and lengthen the period of labor.

Further possibilities are disclosed by examination of the percentages of women at work in the various age and nativity groups previously quoted. If the native born of native parentage had furnished in 1900 as high a proportion of female workers aged 16–35 as did those of foreign parentage the net increase would have been over 890,000 workers. If the percentages were those

¹ *Statistics of Women at Work, 1900, p. 24.*

of the foreign born, the gain would have been over 1,220,000. Raising the percentage of those of foreign parentage to these highest percentages gives a further gain of 134,000 women at work. The total number returned in 1900 was but little over 5,300,000. At existing wages a considerable percentage of native born young women find it desirable to devote their time and energy to other pursuits than industry. They enjoy greater educational opportunities. They constitute America's great leisure class. They serve in the homes and in social agencies of various sorts. Necessity does not compel them to leave the home; nor do the wages proffered attract them. But it is entirely possible, even largely probable, that the enhanced wage contemplated by our minimum wage laws and boards may draw some part of this labor supply, at present unexploited, into the industrial ranks for longer or shorter periods. These potential laborers are the most efficient workers, rather than the least. More highly endowed, they are also better trained and have the advantage of larger opportunities. What would be the result if, through the attractiveness of the higher wage scale, members of this potential labor supply enlarge the industrial ranks to the extent of even one per cent? It would seem that it might easily do more.

A final suggestion may be made, tho in the present regrettable state of our information it cannot be statistically supported. There is good reason to believe that a considerable proportion of our women at work are not full time workers. The Census of 1900 showed that of women in domestic service, manufacture and trade, over 18 per cent were unemployed some part of the year; that more than half of these workers were idle over three months and 16 per cent from 7 to 12 months.¹

¹ Such casual workers are reported in the millinery trade of Kansas City. The season is three months long in spring and fall. Girls come from town and country and

We need comprehensive data showing what proportion of our female workers are employed but part of the year and this at their own motion. The worker under present conditions for three or six months in times of exceptional demand, and so of unusually high wage, might easily become a full time worker if the minimum wage movement reaches its expected result. For the desired legal wage is probably near the present exceptional wage of these part time workers. The character of the labor force attracted by canning factories, hop picking and other seasonal employments suggests that this may be a factor of considerable importance. The census figures suggest that it might add as much as 5 per cent to the entire female labor force. Higher wages then, legally enforced, may attract additional female workers of exceptional efficiency through the lengthening of the period of employment, by drawing more largely on the ranks of the nativity groups at present least numerously represented and by transferring part time into full time workers.¹ If in any or all

remain in their homes during the "off season." In the Oregon report, p. 34, speaking of the canneries; "They employ a class of women, often mothers of households, who do not work away from home the other six months of the year." In the Washington Report, p. 28, "it is well known that a certain per cent of women who work in fruit canneries are merely 'summer workers,' women in families who wish to help out the income by this extra work." Van Kleeck, *Flower Workers*, p. 57; "The 'cheap and docile home workers' after the long dull months when they have no work . . . are eager to toil until late at night, producing in a short time enough goods to supply the market for the season."

¹ A further possibility is the substitution of men for women. That a wage of over \$8.00 might attract certain immigrant races is clear. The following figures are for males 18 years of age and over engaged in manufacturing and mining:—

Race	No.	Average Weekly Wage	Per cent Earning Under \$7.50
Greeks	4,154	\$8.41	45.1
So. Italian . . .	7,831	9.61	24.4
Portuguese . . .	3,125	8.10	45.8
Syrians	812	8.13	45.8
Turkish	240	7.65	57.5
<hr/>		<hr/>	
All Foreign Born	139,610	\$11.92	9.9

Of nearly 140,000 foreign born 36.8 per cent earned under \$10.00. A slight advantage in efficiency would make them acceptable over women at \$8.50. Imm. Comm. Report, vol. i, p. 375.

of these ways the active labor force is increased even so much as two or three per cent the pressure on the newly established standard would be great — perhaps unsupportable. This would come about through the loss of employment by a corresponding percentage of the least efficient workers.

VI. CONCLUSION

This study, then, indicates a broadening of the field of woman employment in trade and a continued progress of the industrial revolution that makes certain the growing importance of female wage earners in American industries. It shows that perhaps 15 per cent of such wage earners actually earn less than \$4.00; 50 per cent less than \$6.00; and 75 per cent less than \$8.00. There is an average loss in wage of perhaps 10 per cent in each week due to lost time and a further loss, perhaps as great, due to seasonal and monthly unemployment. Actual earnings then are much below the proposed legal wages of \$8.00 per week or more. Local reasons for low wage are found in the immobility of the female labor force. General causes are the youthful character of the force, signifying inefficiency; the temporary nature of women's work, meaning inexperienced workers; the unrestrained competition of the youthful foreign born and newly immigrated in numbers out of proportion to the total numbers of the nativity group, introducing low standards of wage and living; and in the fact that women, or girls, at work are constituent members of families and their wage a subsidiary source of family income. In those families driven by the severest economic pressure the wage accepted for the unskilled female laborers is analogous to the rate accepted by the traffic manager of a bankrupt railroad

for low grade freight. Anything that yields any contribution over extra-expense incurred for the families' "fixed charge," *i. e.* their general cost of living, is acceptable.

The disabilities of the women workers might almost be reduced to one — lack of skill. In the total labor force they form a separate non-competing group lower than any male group. How severe is this handicap — lack of skill — is indicated by very important and significant statistics from Pittsburgh.¹ These recognize that very nearly identical processes run through many fields of women's employments. The following table is constructed on the basis of skill:

NUMBER OF WOMEN IN VARIOUS OCCUPATION GROUPS

Kind of Work	No. of Women	Percentage
Skilled work	139	.8
Handicraft	305	1.9
Hand work requiring dexterity .	3,641	23.2
Machine operating	4,885	31.1
Machine	2,188	13.9
Wrapping and labelling	2,118	13.3
Hand work requiring no dexterity	2,475	15.8
	<hr/> 15,751	<hr/> 100.0

The skilled workers are the millinery trimmers and telegraph operators; possessors of a handicraft are stogie makers, expert workers in millinery houses and fine ironers in laundries. All told these constitute less than 3 per cent of the 15,751 workers included. Here then is a final suggestion of needed support to the minimum wage movement. There should be determined efforts to raise the legal age of entering employment;² to limit the numbers of the newly immigrated

¹ Butler, *Women and the Trades*. This table appears on p. 360. The total is corrected.

² Such a movement, intended to raise the age limit to 16 years, is reported in Illinois, where its passage may precede minimum wage legislation.

sending youthful and highly inefficient workers with low standards of living into our industries; and there should be a realization of the fact that women wage earners are ill paid because they are unskilled workers. This condition must be met by trade training.¹ There can be no question that the minimum wage movement is correct in principle. But that the nine American states which have already legislated, even if joined by as many more, can at once raise the wage rates over \$8.00 ² per week seems problematical. In addition to the great gap between actual earnings and the proposed wage rates, there is the too little understood factor of potential female workers. These are of higher efficiency and may be attracted in very considerable numbers by the proposed higher rates. In any case such states will do well to support minimum wage legislation with the further measures suggested above.

C. E. PERSONS.

WASHINGTON UNIVERSITY,
ST. LOUIS.

¹ This was clearly stated in the Oregon report, p. 24. "Lack of training undoubtedly has much to do with inefficiency. This is a burden which must be assumed by society at large and disposed of by some kind of industrial training for girls as well as for boys. Until education of this sort is compulsory, some of the evils of low efficiency will remain."

² It seems clear that we have here an attempt to establish a rate "substantially higher" than the market rate. See the discussion in Tausig's *Principles of Economics*, vol. ii, pp. 299 et seq.

THE CONTEST IN CONGRESS BETWEEN ORGANIZED LABOR AND ORGANIZED BUSINESS

SUMMARY

The Clayton anti-trust act a landmark in the struggle, 235. — Employers organize to resist trade unions, 236. — Necessity of carrying the struggle into politics and legislation, 236. — Bearing of the Sherman act upon the situation, 237. — The National Association of Manufacturers, its growth and activities, 238. — The activities and disclosures of Mulhall, 240. — The American Federation of Labor goes into politics, 244. — Parliamentary tactics, 246. — The National Council for Industrial Defense, 247. — The American Antiboycott Association and the legal phase of the struggle, 249. — Victory at first with the employers, 249. — Organized labor begins to make gains after 1908, 251. — Three types of "labor" bills, 254. — Progress in legislation with all three types, 255. — Labor sections in the Clayton act, 258.

THE recent passage of the Clayton act is an important landmark in the struggle for the control of Congress which has been going on between the forces of organized labor and organized "business" for the past ten years. The protagonists in this struggle have been, on the one hand, the American Federation of Labor, aided by the great railway brotherhoods; and, on the other hand, the National Association of Manufacturers, aided by the National Council for Industrial Defense and the American Antiboycott Association.¹

In a sense, the struggle dates back to the eighties, tho the more formal phase which I shall try to describe began in 1903. Brief reference to this earlier period

¹ For brevity these organisations will hereafter be known respectively as the A. F. L., the N. A. M., the N. C. I. D., and the A. A. A.

suffices for understanding the more recent developments. The growing power of the trade unions had reacted in the formation of employers' associations. The first of these of which I find record was the Stove Founders' National Defense Association, organized in 1886. This was followed in the next decade by many others. Two types may be recognized. One type, like the association just mentioned, was organized along "industrial" lines, *i. e.*, extending over a given industry, and was designed partly for general trade interests and partly to deal with the trade unions organized along parallel lines. The other type was made up of employers simply as employers, without reference to their line of business. These took the name of "Citizens' Alliance," "Citizens' Industrial Association," "Employers' Association," "Manufacturers' Association," followed by the name of the state or city in which they operated. A list of some two hundred organizations, made up of both types, was submitted to the House investigating committee in 1913. Through these organizations the collective demands of labor were to be met by collective resistance. The strike, the boycott, and the picket were to be met by the lockout, the blacklist, the employment bureau with registration of laborers, "fake" unions, strike funds, professional strike breakers, and spies.

Now behind all of these more or less militant activities is the state. It determines and attempts to enforce the conditions of the contest. If the trade union is to use the strike, the picket, and the boycott, they must be legal. It is therefore inevitable that both parties should at least endeavor so to shape legislation as to make possible the free use of their respective methods of industrial warfare. But in applying this general principle to the congressional struggle we must remem-

ber that our legislation in the past has been conceived in harmony with an industrial order based upon the theory of free competition. Under free competition, usually, employers already have the advantage. Hence it is for their interest to maintain the *status quo*; and hence, in the congressional struggle, we find them uniformly on the defensive, while the trade unions are uniformly on the aggressive to secure new legislation.¹

Coming now to the concrete events of the struggle, we have to note that the position of organized labor was made more insecure by the passage of the Sherman act in 1890. This act unquestionably sprang from fear of capitalistic rather than labor monopoly. Indeed, as the bill first passed the Senate, labor organizations were expressly excluded from its condemnation; but it was re-referred to the Judiciary committee, and when it emerged this exempting clause had disappeared. The labor people were assured that it did not apply to them; nevertheless, Mr. Gompers was apprehensive, and, as we shall see, with good reason. Under the common law, contracts in restraint of trade were simply unenforceable; under the Sherman law, combinations entering into such contracts became criminally liable. Might not the courts hold a trade union, especially in the exercise of the strike, the picket, and the boycott, to be a conspiracy in restraint of trade?

It was many years, however, before this question was put to the test. In the meanwhile the opposing forces devoted their energies to strengthening themselves for the impending struggle. Under the leadership of President Gompers, the American Federation of Labor

¹ There are a few exceptions to this rule, as, for example, a bill introduced by Mr. Townsend of Michigan and opposed by the A. F. L., providing for the compulsory investigation of strikes: also a proposition looking toward the placing of the railway service and certain other public utilities on a quasi military footing, in which employees would be forbidden to strike.

gained rapidly in numbers. Organized in 1881, its membership in 1890 was a little less than a quarter of a million; by the beginning of the present century it was over half a million; at the end of the first decade, a million and a half, and now (1915) a little over two million. In estimating the strength of organized labor we must add to the above figures some half a million more for the membership of the railway brotherhoods and other labor organizations not affiliated with the A. F. L. but, in general, sympathetic with its purposes and ideals. Tho the A. F. L. disclaims any socialistic aspirations, its demands are sufficiently radical. The free right to use the strike, picket, and boycott to enforce collective bargaining, backed by a powerful organization with millions of members, might revolutionize the competitive order. Employers were justified, from their point of view, in becoming alarmed. At any rate, they were alarmed and began to organize.

Most important among the employers' associations was the National Association of Manufacturers. It first appeared as a voluntary association in 1895, but was afterwards (1905) chartered as a membership corporation under the laws of the state of New York. It was not organized along the lines of any single industry, but solicited membership from individuals, partnerships, and corporations engaged in all kinds of manufacturing. Neither was it organized primarily for fighting trade unions. Its function was to assist manufacturers in many interests which they had in common. It publishes two export magazines and a domestic magazine known as *American Industries*.¹ It conducts a foreign department for the purpose of building up

¹ The N. A. M., being a "membership corporation" has no authority to engage in any business for profit. The publishing business is conducted by an auxiliary corporation, the National Manufacturers' Company.

American export trade, and a legal department wherein advice is given to members on questions of corporation and state law. It maintains a foreign and domestic collection department. It is sustained by an annual membership fee of \$50, and at present claims about 4000 members, representing plants whose combined capital is about \$10,000,000,000 and which employ about 5,000,000 laborers.

Its aggressive campaign against organized labor dates from 1903. In the convention of that year, held in New Orleans, David M. Parry, the recently elected president, endeavored to arouse his fellow manufacturers to a realizing sense of the dangers that awaited them. Especially was his animosity directed against the closed shop, the boycott, and the strike, and against all legislative efforts to exclude labor unions from the operation of the Sherman law and from liability to injunction by the courts. During his term as president (1902-1906) he devoted his energies chiefly to the task of strengthening the organization. In this he was very successful, the membership increasing from about 700 to a little less than 4000 during his term of office. The active management of the association was left almost entirely in the hands of the secretary, Mr. Marshall Cushing. From his headquarters at 170 Broadway,¹ Cushing directed a remarkable campaign. Just what all his activities were is known only to himself. His methods were subterranean and secretive. He refused to make detailed reports of his activities to his superior officers, and ultimately, on being given the choice, resigned from the association rather than make such reports (1907). It was testified before the House committee that employees were recorded on his books by number instead of name, that they were not allowed to

¹ The present headquarters are at 30 Church Street, New York.

hand in any detailed expense accounts, that they were paid by checks made payable to "cash" or "bearer" which they were forbidden to endorse, and that he had on his pay-roll the private secretary of one of the United States senators, who kept him informed as to the contents of the Senator's private correspondence.

One of these employees, No. 11, was Martin M. Mulhall, whose sensational disclosure of the activities and methods of the N. A. M. was published in the *New York World* and *Chicago Tribune* in the summer of 1913, and led to a most illuminating congressional investigation of the political methods both of the N. A. M. and the A. F. L.¹ Mr. Mulhall was first brought to Cushing's attention in 1902 because of his success in organizing at Baltimore, in behalf of the Republican National Committee, a "Workingmen's Protective Association" which was alleged to be politically effective. He was

¹ The circumstances leading to this investigation are as follows. In the fall of 1911, Mr. Mulhall endeavored to engineer a deal between Mr. John Gardner, of the United States Brewers' Association, and the Republican organization in Maine. Apparently Mr. Gardner was to render financial assistance to the Republican organization and incidentally assist in the election of a candidate to Congress favorable to the N. A. M., in return for the resubmission of the Prohibition amendment to the Maine Constitution. Whether this project was instituted by Mr. Mulhall as a personal venture or was done with the consent and approval of his superior officers is uncertain. The testimony is conflicting. At any rate, this affair embroiled him with Mr. Littlefield, who is a prohibition Republican, and through Mr. Littlefield, with the Association. He was forced to resign his position. He had in his possession a voluminous correspondence extending over nearly ten years and relating to the political and lobbying activities of the N. A. M. After his forced resignation he attempted to interest, first, Representative William B. Wilson, and then Mr. Gompers in the plan of using this correspondence as the basis of a disclosure of the practices of the N. A. M. Failing in his efforts in these directions he finally sold his "story" and the entire correspondence to the *New York World* for \$10,000, which paper made an agreement with the *Chicago Tribune* in accordance with which the matter appeared in both papers on the same day, June 29, 1913. This sensational article involved charges of corruption against several members of the House and Senate, and led to a thorough investigation of the whole matter by committees from each house. The hearings were comprehensive and extended through the whole summer. The charges were not substantiated, —at least, direct bribery and corruption were not proved: tho in the case of Mr. McDermott of Chicago, the House committee found him guilty of "acts of grave impropriety, unbecoming the dignity of the distinguished position he occupied." It also found evidence of the sinister influence of the N. A. M.'s lobby everywhere in and about the Capitol. Its hearings cover 2936 pages, and its final report is to be found in the Congressional Record. The Senate hearings are even more voluminous.

employed two years later by the N. A. M. at a salary of \$40 a week and \$100 for expenses, and instructed, as one of his duties, to continue the formation of similar associations elsewhere for the benefit of his new employers. These Workingmen's Protective Associations were made up of groups of workingmen assembled into loose, ephemeral organizations just before a political campaign, dissolving when the campaign was over. In the Mulhall expense accounts submitted to the N. A. M. and paid by it are numerous items such as these: "Paid to one member of the Retail Clerks' Union, \$40"; "Paid to one member of the Silk Weavers' Union, \$30." Apparently it was Mulhall's policy to seek out trade union men whom he judged to possess the right qualities of heart and mind and induce them for a substantial consideration to organize their fellow workmen into these temporary political clubs. Just what arguments they were to use with their fellows does not appear. The name suggests that the ostensible purpose may have been the maintenance of the protective tariff. But whatever the ostensible purpose, the real purpose was to secure the election of the candidate — usually Republican — whose economic views, especially in regard to labor matters, were known to be in harmony with those of the N. A. M.

"Usually Republican," I say. The N. A. M. was not partisan. If the Democratic candidate was more fully committed to its views than the Republican, he received its active support. Indeed, on one occasion it secretly supported one Hubschmit, a Socialist, in the hope of drawing away Democratic votes. Nevertheless, admitting exceptions, the Republican party was felt by the association to represent its position more cheerfully and whole-souledly than the Democratic, and hence there was a growing tendency for the lines of political

cleavage to coincide with the lines of economic cleavage. Mr. Taft was frankly the candidate of the N. A. M. and Mr. Wilson that of the A. F. L. in the presidential campaign of 1912.

Mr. Mulhall's activities in behalf of the N. A. M. were not confined to the "field work" above described. He was also employed as a lobbyist in Washington. In this capacity he was under the direct supervision of Mr. James A. Emery, counsel for the National Council for Industrial Defense — an organization whose relation to the N. A. M. will presently be described. He procured bills, documents, reports; secured the dissemination of campaign literature under the franks of friendly congressmen; and professed to obtain advance information on all matters pertaining to labor legislation. He was assisted in these activities by I. H. McMichael, the chief page of the House, whom he paid under the authority of his employers \$50 a month for his services. He also obtained a room in the Capitol building to assist him in carrying on his lobbying activities; but this was his own venture, and apparently was not approved by his employers.

If one were to take the Mulhall letters at their face value, one would suppose him to have been a person of influence and consequence with congressmen. He professes to have dictated for his employers the appointment of friendly congressmen on committees and subcommittees, to have secured the reference of undesired bills to "safe" committees (*i. e.*, committees which could be trusted not to report them), to have induced members of Congress to absent themselves both from the floor of the House and from committees when important votes were to be taken, and so on. The evidence clearly shows that Mr. Mulhall entertained an exaggerated opinion of his own powers in these respects.

But the evidence also shows that his employers believed him to exercise these cryptic influences and held him in high esteem precisely because they so believed.¹ He was retained in the employ of the association until the close of 1911. During the fall of that year he fell from grace because of a political indiscretion and was consequently discharged.

The political activities of the N. A. M. were not all of the subterranean character suggested by the Mulhall and Cushing campaigns. It used the Chautauqua platforms for disseminating its philosophy and appeared by counsel before congressional committees when public hearings were granted. Its magazine, *American Industries*, was of course circulated as widely as possible. It endeavored to interest the college world in its propaganda. Its secretary, Mr. Schwedtmann, made a carefully prepared address before the joint session of the American Association for Labor Legislation and the American Economic Association at the St. Louis meeting in 1910, and after the address endeavored to indoctrinate a number of college professors with his views.

¹ Mr. Bird, general manager of the N. A. M., was asked, "Would not you, as manager of your association, have been perfectly satisfied if Mr. Mulhall could have done what he was pretending to do?" He replied, "If he could have done it, he would have been a wonderful man and I would have been entirely satisfied." — House hearings on the Lobby, page 2087. And later, the question being of Mr. Mulhall's having induced thirteen members of Congress who had previously voted with Hughes on the Hughes amendment (see page 256) either to absent themselves or vote against it, Mr. Bird, on being asked whether he thought that was the proper thing to do, replied: "On the Hughes amendment? I should say yes: absolutely right, and they ought to have monuments built to them if they stayed away." "Whatever the inducements were?" "I do not care what the inducements were. It is a question of what is the manufacturer or the merchant or the consumer going to have in the way of legislation. And if those thirteen men saw the light of day from any effort by Colonel Mulhall, I will retract everything I have ever said about him, and God knows I have said enough." — *Ibid.*, p. 2090. There was at one time a proposition to elect Mr. Mulhall to Congress. The following is from a letter from Mr. Kirby to Mr. Bird: "Now, I have no doubt but that the Colonel not only could get the nomination, but also could be elected to Congress, and I am wondering where he would be useful to us. He certainly would be like 'the Thompson door plate,' a 'handy thing to have in the House,' but I should hate very much to lose his services and influence on the outside. Really, I do not know how we could replace him." — *Ibid.*, p. 2222.

It exerted pressure to secure the appointment of President Butler of Columbia and Professor Laughlin of the University of Chicago on the Commission on Industrial Relations authorized by act of Congress in 1912. It also endeavored to secure the appointment of its secretary, Mr. Schwedtman, on the same commission. It used the "back-fire" method with effect. At the Republican National Convention in 1908, Mr. Gompers was on hand with a demand for labor planks in the platform. Mr. Van Cleave, president of the N. A. M. from 1906 to 1909, Mr. Emery, and Mr. Mulhall were also there to represent the interests of organized business. There was evidently some wavering on the part of the committee on resolutions. The arguments of Mr. Gompers were very persuasive. But the "back-fire" methods of the manufacturers proved more so. Mr. Van Cleave and his associates claim to have engineered the sending of 20,000 telegrams at the psychologic moment from employers all over the country, and the obnoxious labor planks demanded by Mr. Gompers were thrown out.

All of this political activity on the part of the N. A. M. soon developed its logical result: it compelled its rival to do likewise. Hitherto the A. F. L. had "kept out of politics" or, to quote Mr. Gompers, political activity had been "sporadic rather than systematic." Politics and religion had been subjects tabu in all union meetings. But now in 1906, finding all of its attempts to secure legislation successfully baffled, and observing the growing power of the employers' associations, it deliberately resolved to go into politics and elect men pledged to its ideas. Several courses were open. It might have formed an independent labor party; it might have cast its lot with the rising Socialist party; it might follow the lead of its rival and play one of the

great parties against the other. The last named course was chosen.

A bill of grievances was drafted, signed by the full executive council, and addressed to President Roosevelt, Senator Frye (president *pro tempore* of the Senate), and Speaker Cannon. The document embodied specifically labor's demands for legislation, and closed with these significant words: "We present these grievances to your attention because we have long, patiently, and in vain waited for redress. . . . Labor brings these its grievances to your attention because you are the representatives responsible for legislation and failure of legislation. . . . Labor now appeals to you and we trust that it may not be in vain. But if, perchance, you may not heed us, we shall appeal to the conscience and support of our fellow citizens." At this time also it adopted a form of words which it has used ever since as a slogan. "Let organized labor's slogan live in its deeds — stand faithfully by our friends; oppose and defeat our enemies, whether they be candidates for President, for Congress or other office, whether executive, legislative, or judicial. Men of labor, stand true!"

The lines of action adopted by the A. F. L. to make its political policy practically effective were as follows. Its representatives appeared before the national party conventions, demanding "labor" planks in party platforms. Through its legislative committee (a standing committee appointed expressly for this purpose) and its official organ, the *American Federationist*, it kept all of its scattered members informed of the labor bills before Congress and of the votes of their Representatives in Congress on these bills. It endeavored, whenever possible, to secure the election to Congress of labor members, *i. e.*, *bona fide* union men holding union cards.

It is non-partisan in the same sense as its rival. On the vital question of determining in a given district which candidate should be supported and which opposed, the policy has been to leave the decision to the local organizations in the district. They were kept informed, in the manner stated, of the candidate's record; then, *if invited*, the Federation sent out speakers and organizers and disseminated campaign literature. Like its rival, it often used the franks of friendly congressmen for the last purpose, and, like its rival also, it used the "back-fire" method effectively. The funds for carrying on these campaigns were raised by contributions from the entire membership. About \$8000 were so raised in the campaign of 1908. In 1912, however, the policy of raising funds was abandoned.¹

The parliamentary tactics following the aggressive attitude of these formidable rivals were curious. The Republican party, which was responsible for legislation, felt that labor bills must not be allowed to go through. The party "war-chest" was too dependent upon campaign contributions from business men; and probably most of the members honestly disapproved of what seemed to them paternalistic meddling, or "class" legislation. Individual congressmen, however, were placed in a delicate situation; especially if they repre-

¹ Mr. Gompers gives as a reason for this change of policy that it was putting a weapon in the hands of their enemies. "The men of labor were never so active," he says, "in any political campaign as they were in the campaign of 1908, but our very publicity, our very activity, was turned by the representatives of the National Association of Manufacturers and by the men of vested interests to their own account. In other words, men who were, say, opposed as a matter of party principle, probably, to the election of Mr. Taft, were driven into supporting Mr. Taft because as the National Association of Manufacturers declared every moment they had the opportunity, the country would go to the damnation bow-wows if Mr. Taft should be beaten and Mr. Bryan elected." House Hearings on the Lobby, page 2472. Perhaps, also, the growing strength of the Socialist movement within the A. F. L. may have had something to do with this change of policy. The Socialist members would be opposed on principle to the policy of contributing to the election of any candidate other than a socialist. In the election for president of the A. F. L. in 1912, Max Hayes, the candidate of the Socialist members, polled 5,073 votes against 11,974 for Mr. Gompers.

sented a labor district. They must display a consuming zeal for "labor" by tongue and by pen in order to stand a chance of being elected at all. They might even pledge themselves to vote for specific bills, if opportunity offered. But the bills must not get through. A masterly policy of ineffective activity was thus indicated as meeting the situation. Bills were permitted to pass the House with the understanding that they would be lost or smothered in the Senate, — Senators not being quite so dependent on the popular vote. Bills were referred to committees and by them to sub-committees from which they were never to emerge. Committees and sub-committees were not called together by their chairmen or, if called, could not muster a quorum. Extended and dilatory hearings were granted. Labor bills were emasculated by "jokers." Speaker Cannon, always loyal to the interests of the employing class, made up the Labor and Judiciary committees so that they would be a graveyard of all labor bills.

The effective etherization of labor bills was the special function of the National Council for Industrial Defense. The N. A. M. itself was not altogether suited for this purpose. It had been organized for many purposes besides attacking labor unions, and some of the members might protest were it to appropriate money, raised from their annual dues, to this object. Moreover, it was not so broadly representative as it might be. As we have seen, it was only one, tho perhaps the most powerful one, of a great number of employers' associations, which, however they might differ in other respects, had one thing in common, antagonism to certain forms of labor legislation. It occurred to the officers of the N. A. M. that all this latent power might be brought to a focus. As early as 1904 an effort had been made to form such a representative organization under the name of the

Citizens' Industrial Association of America, but the form of organization did not prove wholly satisfactory. Accordingly in August, 1907, on the invitation of Mr. Van Cleave, then president of the N. A. M., a conference was held of representatives of about a dozen of the most powerful of these employers' associations. As a result of several such conferences a very loose form of voluntary association, known as the National Council for Industrial Defense, was devised. This Council consists of a self-perpetuating committee of three, — a chairman, a treasurer, and a counsel. The chairman and treasurer have as a matter of fact been the chief officers of the N. A. M., and from the beginning Mr. James A. Emery has been retained as counsel at a salary of \$12,000 a year. The only connection between this self-perpetuating committee and its clientele is this: a blank form of "power of attorney" was drafted, which all kinds of employers' associations are invited to sign through their proper officers, entrusting to Mr. Emery full authority to represent them in all matters pertaining to labor legislation, state and national. There is no stated fee, but the associations are solicited to subscribe to the necessary expenses of the Council such sums as they are willing to give. Thus the N. A. M., tho in reality the guiding spirit of the Council, is in appearance only one of some two hundred employers' associations that have given Mr. Emery authority to represent them. When Mr. Mulhall was in its employ, it subscribed half his time as its contribution to the funds of the Council.

Encouraged by the success of its defensive fight against "vicious class legislation" and the "wicked labor trust" the N. A. M., now resolved to force the fighting by an attack through the courts. For this purpose it had an organization ready to hand. Just as

the N. C. I. D. had been created for the purpose of fighting labor legislation in Congress and the state legislatures, so the American Antiboycott Association had been created for attacking organized labor through the courts. This association dates back to 1902, and like the N. C. I. D. it raises funds and retains permanent counsel. Its purpose is stated to be, "the systematic interpretation, enforcement, and preservation of the law against boycotting, picketing, sympathetic and other unlawful strikes."

This attack materialized in the famous Buck's Stove and Danbury Hatters' cases. It is unnecessary here to go into details, tho it is interesting to note the significant fact that Mr. Van Cleave, who had just been elected president of the National Association of Manufacturers, was also the president of the Buck's Stove Company. Both of these cases were more than mere trials to find out whether a specific defendant were guilty or innocent of offense under the law. They were test cases to determine the scope of the law, and as such were battles royal between the armies of organized labor on the one hand and those of organized business on the other. In both cases the expenses for the defense were borne by contributions from the entire membership of the A. F. L., and the expenses for the prosecution, by the A. A. A. As test cases also they were both fought through every conceivable device of appeal and retrial, and not until the present year (1915) has the last word been said.

In the first round in both cases the employers won decisive victories. In December, 1907, Justice Ashley M. Gould, of the Supreme Court of the District of Columbia, granted a most sweeping order of injunction in restraint of the Buck's Stove boycott, and about a year later Judge Wright, of the same court, for alleged

violation of this order, declared Samuel Gompers, Frank Morrison, and John Mitchell in contempt of court, and sentenced them respectively to a year's, nine months' and six months' imprisonment. In February, 1908, the Supreme Court of the United States handed down an opinion that labor unions in the exercise of the boycott might come under the condemnation of the Sherman law, and in the fall of the following year the Hatters' Union, on the strength of this opinion, was mulcted under the threefold damages clause of this act in the sum of \$232,240 resulting from the boycott against Loewe & Company.

At no time, from the standpoint of organized labor, had the situation looked darker than in 1908 in the months following the above mentioned handing down of an opinion by the Supreme Court. A few trade union members had been elected to Congress, it is true, and a few comparatively insignificant labor bills had been passed; but its opponents had been able to block successfully all really important legislation. They were thoroly organized in three powerful associations, each specialized to secure the maximum efficiency. They possessed wealth and the aggressive virility of habitual mastership, and that advantage of position which comes from being obliged to maintain a generally accepted social and legal philosophy; while the labor people were under the necessity of indoctrinating the community with a new one. Moreover, in the mere matter of membership, the Federation seemed to have reached high water mark. After 1904, the membership actually declined, and the record of that year was not again attained until 1911. And now in quick succession came three body blows from the courts: the boycott could be restrained by judicial order, violators could be summarily punished for contempt, and labor unions

could be mulcted in heavy damages under the Sherman law.

But the situation, tho grave, proved stimulating rather than crushing. Organized labor redoubled its efforts. A conference was called in Washington, and labor's demands in the form of specific bills were presented to Congress. The dominant party was informed that a vote to adjourn without passing these bills would be considered a hostile vote. A vigorous "back-fire" campaign was instituted and letters began to pour in from all parts of the country demanding the passage of these bills. The legislative committee was enlarged and a canvass of the entire House was made. Two hundred and fifty members pledged themselves to vote for these bills, if opportunity offered. Demands were made at all the national party conventions for labor planks in the party platforms.

From this time the tide began slowly to turn. The membership of the A. F. L. increased steadily after 1909, — about half a million in five years. Altho, as noted before, it failed to secure satisfactory planks from the Republican national conventions, beginning with 1908, it was successful with the Democrats and later, in 1912, with the Progressives. The Socialist platform is, of course, a labor platform throughout. As a result of the campaign of 1908 the Republican majority in the House was reduced, in 1910 the Democrats gained control of the House, and in 1912 of the entire government.¹ The "labor group" in Congress steadily gained in numbers. In the present Congress (sixty-third) there are sixteen Representatives and one Sena-

¹ Of course, I do not assert that the political activity of the A. F. L. is solely responsible for these Democratic gains. I believe it to be, however, an important contributing factor.

The election of 1914, held since the above paragraph was written, indicates a reaction. The Democrats still control the House, but by a reduced majority. However, the "labor group" has been increased by one member.

tor holding union cards.¹ Unwilling testimony to the growing power of the A. F. L. may be extracted from the correspondence of the "enemy." April 26, 1912, Mr. Emery writes to Mr. Kirby (the president of the N. A. M., following Mr. Van Cleave): "The time is almost at hand when the sixteenth amendment will provide for the possession of a union card by the President." And again (March 7, 1913): "Be cheerful — remember that the worst is yet to come, and the chances are that next year you will have to resort to the initiative to retain your position in the Dayton Manufacturing Company, and probably within ten years you and I will hobble up Pennsylvania Avenue to present to a female Congress assembled at the Capitol a petition for the return of male suffrage." Mr. Emery is a vivacious writer, disposed to give a humorous turn of expression to his discomforture; but these whimsical utterances indicate the bitter consciousness of losing ground. It is to be noted that the initiative and referendum and equal suffrage for women are on the legislative program of the A. F. L.

Three incidents will serve to illustrate the economic pressure in our national politics. Mr. Bannon of Ohio, was in 1908 chairman of a sub-committee having in charge an amendment to the Sherman act, offered by Mr. Wilson of Pennsylvania, exempting labor unions from its condemnation. He refused to call his committee together; the labor unions in his district were informed of his inaction; and as a result he was defeated

¹ The following figures give the number of "union card" members elected in the successive Congressional elections since the A. F. L. adopted its policy of political activity:

Representatives, 6 in 1906	Senators, 1 in 1912
10 " 1908	1 " 1914
18 " 1910	
16 " 1912	
17 " 1914	

for renomination at the primaries. Mr. Gardner of New Jersey, had entered Congress as a "friend of labor;" indeed, when he was appointed chairman of the Committee on Labor, it was upon the recommendation of Mr. Gompers. He prepared several eight-hour bills. On one occasion, however, for permitting one of these eight-hour bills to be reported from his committee he was "severely castigated by Speaker Cannon." Moreover, he discovered that Mr. Mulhall was organizing his district against him. From that time his attitude changed. Previous to 1910, he had been supported by the A. F. L., and opposed by the N. A. M., but in the campaign of that year the rôles were reversed. A statement of his votes and failures to vote was prepared by the Federation and sent to organized labor in his district. On the strength of this record his re-election was actively opposed by the forces of organized labor. He was actively assisted by the N. A. M. In the campaign of 1912, Mr. Wilson of Pennsylvania, one of the "labor group" and a veteran champion in proposing and defending labor bills, was defeated for re-election through the political activity of the N. A. M. in his district. Labor was vindicated, however, by his prompt appointment as first secretary of the new Department of Labor in President Wilson's cabinet.

It would be interesting to trace in detail how this political activity on the part of the A. F. L. was reflected in the increasing friendliness of each successive Congress to labor. But space will not permit. It is sufficient to note that the sixty-first Congress, elected in 1908, was more favorable to labor's demands than the sixtieth; the sixty-second was more favorable than the sixty-first; and the sixty-third has already granted the Federation's most radical demands, and favorable action is looked for on other bills.

The labor bills that have been introduced into all of these Congresses have been numerous and cover a great variety of subjects. They may be roughly classed under three heads. First, there is legislation of a general character, not specifically dealing with the wage-earner, but in the estimation of the A. F. L. advantageous to the interests of the wage-earning class, or giving to organized labor a position of strategic advantage. Under this head could be enumerated the constitutional amendments relating to the income tax and the popular election of United States Senators. In the same class would be put the parcels post, the postal savings banks, publicity of campaign contributions and expenses, equal suffrage for women, various Federal investigations (as, for example, the Industrial Relations Commission), the establishment of a Department of Labor, and modifications of parliamentary practice so as to prevent the smothering of labor bills.¹

Under the second head should be classed legislation specifically beneficial to wage-earners, whether union or non-union. Here should be put eight-hour laws, laws restricting immigration (especially Oriental immigration), workmen's compensation and employers' liability laws, convict labor laws, child labor laws, and laws regulating dangerous trades.

Finally, legislation is demanded which is distinctly *union labor* legislation — legislation which frankly accords a position of strategic advantage to organized labor, both as compared with the employer and the non-union competitor. Under this head are to be put the bills which the A. F. L. has pressed with the most

¹ House resolution 808 (June 17, 1910) was an important victory for organized labor against the abuse of smothering bills in committees. It provided that any member could make a motion in writing to discharge any committee from further consideration of any specific bill. Motions so made were required to be put to the House for passage by the Speaker in the order received. If the motion prevailed, this brought the bill before the House, where it would be debated and voted on.

intensity of earnestness and insistence: modifications of the Sherman law in such a way as to exempt labor unions from its condemnation, and modification of the judicial processes of injunction and contempt; the end and aim being to secure to organized labor the free and untrammelled use of its weapons of the strike, the picket, and the boycott.

Legislation of the first two types needs little discussion. The mere enumeration of the titles will at once suggest the progress that has been made. On nearly all the matters mentioned some legislation has been secured. In the matter of workmen's compensation, indeed, the two great rival organizations found themselves in approximate agreement. While differing in important matters of detail, both the N. A. M. and the A. F. L. favor the general principle of regulating by law the compensation which shall be paid to workmen injured by accident.

Most significant is the progress made with legislation of the third type. In all of the Congresses to which reference has been made numerous bills relating to the Sherman law and to injunction and contempt have been introduced; but not all of these were approved by the A. F. L. In each Congress, out of the several bills introduced, one or more has been selected upon which the Federation has concentrated its efforts. In the sixtieth Congress the Wilson amendment to the Sherman law and the Pearre anti-injunction bill were the Federation bills. Both measures got no further than the sub-committees to which they were referred. It was his refusal to call his sub-committee together on the Wilson amendment that cost Mr. Bannon his seat in Congress. In the sixty-first Congress, the Federation bills were an anti-injunction bill offered by Mr. Wilson and the Hughes amendment to the Sundry Civil Appro-

priation bill. The anti-injunction bill was introduced as an independent measure, and, fearing that he might not succeed by this method, Mr. Wilson also endeavored to have it incorporated, in part, as an amendment to the codification of the laws relating to the Judiciary when the latter measure was in committee. The amendment having been ruled "not germane" in the committee, Mr. Wilson tried it again from the floor of the House. The amendment passed the House but got no further. The Hughes amendment was of the nature of a rider attached to the Sundry Civil Appropriation bill, providing that none of the money appropriated under the act should be used for the prosecution of labor organizations for alleged violations of the Sherman law arising out of labor disputes. This amendment also passed the House, but was lost in the Senate. The bill then went to conference. The Senate conferees insisted on the rejection of the amendment but the House voted not to concur. Finally, however, because of executive pressure from President Taft the bill passed both houses without the amendment.

The parliamentary career of the above bills has been given in some detail as illustrating not only the progress of labor legislation, but also the parliamentary tactics resorted to by both sides and the unremitting vigilance and pressure which were applied to Congress by the great economic rivals. No less interesting was the contest in the next Congress. The Federation bills were the Bartlett-Bacon bill, covering labor's demands with respect to the Sherman law, injunction, and contempt; and, failing in that, two Clayton bills, covering the matters of injunction and contempt, and specifically "legalizing" the strike, the picket, and the boycott, but making no reference to the Sherman law. The Bartlett-Bacon bill was referred to the labor committees

in both House and Senate. This was contrary to precedent for such bills, but the Labor committees were thought to be more favorable to organized labor than the Judiciary. This was especially true of the House Labor committee, of which Mr. Wilson was chairman, and which contained several members of the "labor group." Mr. Emery, in behalf of the employers, at once endeavored to have the bills re-referred to the Judiciary committees.¹ He was successful in the Senate, but not in the House. The Bartlett bill died on the House calendar. Its twin in the Senate never emerged from the Judiciary committee. Failing in all these bills the Federation made another attempt on the Sherman law by means of a rider to the Sundry Civil Appropriation bill similar to that tried in the preceding Congress, and here it fell short of victory by a very narrow margin. The bill with the amendment passed both houses of Congress and was submitted to President Taft on March 4, 1913, and was promptly returned with

¹ "I immediately got in touch with Mr. Clayton, Chairman of the House Judiciary committee," says Mr. Emery in a letter to Mr. Kirby, "and called his attention to the reference, and he expressed surprise, as he realised the bill should go to the Judiciary committee. . . . I thought I would appeal to Mr. Clayton's pride and he gave every evidence of being much displeased at the reference of this bill, and said he would take the matter up on the floor at once." — House Hearings on the Lobby, p. 82.

From another letter touching the same matter: "You know that for the past nine weeks our Democratic members of the Judiciary committee have been between the devil of Gompers and the deep sea of business protest against the legislation which they had voted out of the committee, but could neither frame a report to vindicate, nor gather the courage to report to the House. Becoming impatient our labor friends got a new bill. . . . Mr. Bartlett of Georgia introduced this bill in the House, and Senator Bacon of the same state in the Senate. Now comes the game. The Bill was referred to the House committee on labor instead of the Judiciary committee at Mr. Bartlett's request. I called your attention to the fact that I aroused Mr. Clayton's ire and he sought to secure a re-reference, to which Mr. Bartlett objected. . . . The bill now goes to the House calendar and there will be some warm doings. I shall have a bulletin out on this interesting document shortly. It is interesting to observe that the difficult Constitutional questions which soared the Democratic Judiciary committee through the ropes are met with a courage unequalled by a miner, a hat maker, and a structural iron worker whose preliminary education has made them utterly fearless in the presence of any known legal problem! So unionists rush in where lawyers fear to tread. No man is so courageous as he who sits on a powder keg in the firm belief that it is filled with mustard seed." — *Ibid.*, p. 84. The above excerpts throw an interesting side light on the vigilance, the tactics, and the attitude of mind of the contending parties.

his veto, the veto being explicitly given because of the rider. The House passed the bill over the President's veto, but before it could come up in the Senate the sixty-second Congress had expired.

This brings us down to the sixty-third Congress (1913-1915). The Democrats were now in complete control of the government; and the Democrats had come into power pledged by their party platform to a labor policy which had been pronounced satisfactory by Mr. Gompers. The prospects, therefore, for favorable labor legislation look bright, and these prospects have been realized. To confine ourselves to the particular type of bill last mentioned, tho this is by no means exhaustive, the Sundry Civil Appropriation bill with the Sherman law amendment which had been vetoed by President Taft was reintroduced early in the special session and received President Wilson's signature, June 23, 1913. This was recognized, however, by Mr. Gompers as only a makeshift. The efforts of the labor people have been chiefly concentrated on the Clayton bill, which apparently grants to organized labor its most essential demands. It has at last become law. It passed the House, June 5, 1914; the Senate, September 2; then went to conference; and finally received President Wilson's signature October 15.¹ The act is of a composite character and deals with many other matters besides labor. The portions of especial interest in this connection are section 6, and sections 17 to 24 inclusive. Section 6, relating to the Sherman law, is as follows: "The labor of a human being is not a commodity or article of commerce. Nothing contained in the anti-trust laws shall be construed to forbid the existence and operation of labor, agricultural, and

¹ The Clayton act is also called the "Anti-trust" act; its general provisions are discussed by Professor E. D. Durand in this Journal, November, 1914.

horticultural organizations, instituted for the purpose of mutual help, and not having capital stock or conducted for profit, or to forbid or restrain individual members of such organizations from lawfully carrying out the legitimate objects thereof; nor shall such organizations, or the members thereof, be held or construed to be illegal combinations or conspiracies in restraint of trade, under the anti-trust laws." The other sections rigidly define and limit the power of the courts in granting temporary restraining orders and in issuing injunctions; limiting the period of temporary restraining orders to ten days, providing for a hearing, and requiring security from the applicant for an injunction conditioned on the costs or damages of one wrongfully enjoined. The injunction must be specific in describing the acts to be enjoined and the person or persons enjoined.¹ Jury trial, at the option of the accused, is provided for in contempt cases. But the most radical matter relating to labor is contained in section 20. Here it is provided that, unless it is necessary in order to prevent irreparable loss of property, no injunction shall be granted in cases between employer and employed arising out of labor disputes concerning the terms or conditions of employment. It further provides that no injunction or restraining order shall prohibit persons singly or in concert from terminating any conditions of employment or persuading others to do so, or from attending at any place for the purpose of persuading others to abstain from working, or from ceasing to patronize or advising others to cease from patronizing parties to such disputes, or from peaceably assembling; and finally, it provides that none of the above acts shall be considered to be in violation of any law of the United States.

¹ This clause is designed to prohibit the "blanket" injunction, which was one of the chief grievances in the *Buck's Stove* case.

The law has still to run the gauntlet of the courts both as to interpretation and constitutionality, and some uncertainty has been expressed in public comment on the act as to its interpretation. The insertion of the words "lawful," "lawfully," and "peaceful" in connection with the permitted activities of labor organizations, and the proviso "unless necessary to prevent irreparable injury to property or to a property right" appended to the prohibition of the injunction in labor disputes will call for legal construction.¹ Doubtless, in its final interpretation, something will depend upon the use made by labor organizations of the rights accorded them under the law, and doubtless more will depend upon the drift of public sentiment and opinion as reflected in the election returns from now on. We may be sure that the employers' associations will bring the matter before the courts and fight to the last ditch. But to the lay reader it appears to be the intent of the act to accord to organized labor, in so far as the matter comes within the Federal jurisdiction, the right to the

¹ That the reader may form his own opinion as to the intent of the law, section 20 follows in full: "That no restraining order or injunction shall be granted by any court of the United States, or a judge or the judges thereof, in any case between an employer and employees, or between employers and employees, or between employers, or between persons employed and persons seeking employment, involving, or growing out of, a dispute concerning terms or conditions of employment, unless necessary to prevent irreparable injury to property, or to a property right, of the party making the application, for which injury there is no adequate remedy at law, and such property or property right must be described with particularity in the application, which must be in writing and sworn to by the applicant or by his agent or attorney.

"And no such restraining order or injunction shall prohibit any person or persons, whether singly or in concert from terminating any relation of employment, or from ceasing to perform any work or labor, or from recommending, advising, or persuading others by peaceful means so to do; or from attending at any place where any such person or persons may lawfully be, for the purpose of peacefully obtaining or communicating information; or from peacefully persuading any person to work or to abstain from working; or from ceasing to patronize or to employ any party to such dispute, or from recommending, advising, or persuading others by peaceful and lawful means so to do; or from paying or giving to, or withholding from, any person engaged in such dispute, any strike benefits or other moneys or things of value; or from peaceably assembling in a lawful manner, and for lawful purposes; or from doing any act or thing which might lawfully be done in the absence of such dispute by any party thereto; nor shall any of the acts specified in this paragraph be considered or held to be violations of any law of the United States."

strike, the picket, the public assembly, and the boycott, provided only that these activities are unaccompanied by violence. Mr. Gompers, at least, regards the act as an unqualified victory. In his leading article in the November *American Federationist* (1914) he says: "The labor sections of the Clayton Anti-trust act are a great victory for organized labor. In no other country in the world is there an enunciation of fundamental principle comparable to the incisive, virile statement in section 6. . . . The declaratory legislation, 'The labor of a human being is not a commodity or article of commerce,' is the industrial Magna Carta upon which the working people will rear their structure of industrial freedom."

PHILIP G. WRIGHT.

HARVARD UNIVERSITY.

SCIENTIFIC MANAGEMENT IN PRACTICE

SUMMARY

I. Introductory. — Scope of the investigation, personnel; statistics, 262; Personnel, 263. — II. Applications of scientific management, 267; Municipal and miscellaneous work, 267. — Railroads and public utilities, 269. — Industrial plants, 270. — Time study and instruction cards, 274. — Stores system, 279. — Routing, 280. — Inspection, 283. — Standardization of equipment, materials, and plant, 284. — Cost statistics, 286. — Sales, 287. — Gross results, 288. — III. Effect on workers. — Wages, 290; Health, 292; Interest, loyalty, 294. — IV. General economic results, 297. — Relations with organized labor, 298. — V. Failures and their causes, 303. — VI. General influence of the movement, 306.

I. INTRODUCTORY

At intervals during the past three years I have been investigating the actual working of scientific management in practice. The results, incorporated in this paper, are derived in the majority of cases from personal visits to the plants in twelve states and conferences with owners, managers and experts employed. The information in regard to the others is derived mainly from the consulting engineers.

Information was sought with reference to the number, distribution, and types of plants to which scientific management has been applied; so much of the history and personality of the men engaged as is essential to an understanding of the development of their work; and the actual differences in practice between scientific and other types of management. Attention was also given to the results, both in the administration of plants and in the conditions of individual workers. The possible social consequences and tendencies involved

in the movement offer a tempting field for speculation (which will be cultivated in the next paper in this series), and a few significant facts bearing on them were uncovered. In the feeling that a study of the failures might be almost as instructive as that of the successes, the facts in regard to them also were gathered and analyzed.

The type of management now known and practised as "scientific management" was unquestionably originated by Mr. Frederick W. Taylor. The details of the course of reasoning and experience through which he went may be found in his three books.¹ After a number of years devoted to the application of his principles of management in several important plants, Mr. Taylor retired from active practice about 1901. Since then he has been engaged mainly in the propaganda of the principles which by that date he had fully elaborated.

The disciples and followers of Mr. Taylor constitute what is known as the "Taylor group." Among them, three: Messrs. Gantt, Barth, and S. E. Thompson,² were intimately associated for a number of years with Mr. Taylor in the development of his system. All, like the leader, are men of technical training as engineers. In addition, others in considerable number have taken up scientific management as a profession. A few Englishmen, Frenchmen, Germans, Russians and Japanese, sent over by enterprises with which they are connected, have come to this country to study the methods at first hand.

A conspicuous off-shoot, standing somewhat apart yet sufficiently connected in origin and principle to warrant inclusion, is the branch of the movement

¹ F. W. Taylor: *Shop Management*; *Principles of Scientific Management*; and *the Art of Cutting Metals*. See also C. B. Thompson, *The Literature of Scientific Management*, in this Journal, May, 1914.

² Reference to the publications of Messrs. Gantt and Barth was made in my article just referred to.

developed by Mr. Harrington Emerson and his followers. Mr. Emerson, after a varied career in general business and in railroad service, turned to "efficiency management" in later life, and became conspicuous in connection with the application of his system to the Santa Fe railroad. He has modified greatly the original Taylor system as he found it in operation in Philadelphia plants.

The total number of applications of scientific management definitely known to me is 140. This does not exhaust the list, however, as there are some cases in which the client is unwilling that his connection with this movement shall be known, and others in which consultants are reluctant to give information. There is an uncertain number of such instances, probably small, in which either the work has been completed or is still in process.

Of these 140 applications, 4 are to municipal work, including 3 instances of consultation and one in which a scientific management expert is at the head of a Department of Public Works. Five deal with railroad and steamship companies (exclusive of repair shops, which are classed as industrial) and 131 with industrial plants: 120 factories (including repair shops of 4 railroads), 4 public service corporations, 3 building and construction companies, one department store, one bank, one publisher and one professional society. These 120 factories and repair shops constitute practically 1 per cent of the 12,784 plants which in 1909 employed more than 100 wage earners. The number of men in these plants, as nearly as I can estimate, is about 43,000, constituting a trifle over one per cent of the 4,115,843 employed in 1909 in plants employing over 100 wage earners.

The 131 industrial plants included in the above classification are distributed as follows:

New England 41	North Central (cont.)
Connecticut .. 8	Ohio 4
Maine 3	Wisconsin ... 2
Massachusetts 24	
New Hampshire 3	Southern 10
Rhode Island 3	Delaware 1
	Maryland ... 5
Middle Atlantic 48	Mississippi ... 1
New Jersey .. 2	Tennessee ... 1
New York ... 19	Texas 1
Pennsylvania 27	W. Virginia... 1
North Central 27	Western 3
Illinois 14	California ... 2
Indiana 2	Oregon 1
Iowa 1	
Michigan 4	Canada 2

The extent of application (attempted or completed) of the system to this group is as follows:

Complete 120	Fuel consumption only 1
Costs only 4	Unknown 3
Clerical work only .. 3	

The most significant classification of manufactories, from the point of administration, is with reference to the complexity of their routing and order systems. On this basis the plants involved may be divided into two groups: first, the assembling industries, such as machine shops, repair shops, garment factories, of which there is a total of 75; and second, the relatively simple continuous and intermediate type, such as printing plants, foundries, textile plants, of which there is a total of forty-five. Both these groups may again be subdivided with reference to whether they manufacture on order only, for stock only, or for both. Of the plants of the assembling type, 19 manufacture on order, 18 for stock, and 35 for both; while for the continuous and intermediate types, the figures are 22, 16 and 3 for the same sub-divisions, leaving 7 for which information on

this point is not available. The list of about 80 industries involved, classified according to product, is given in the footnote.¹ These figures, together with those for transportation companies, public service corporations, municipalities and miscellaneous concerns should dispose of the question of the breadth of applicability of scientific management to various types of work.

¹ The following list will be found to differ slightly from that published in the Report of the Sub-committee on Administration of the American Society of Mechanical Engineers. The latter report included some industries, such as sewing machines, brewing, and beet-sugar refining, in which there was merely consultation or a report which did not develop later into actual work; and others, such as tanks, tin cans, flour, leather goods, soaps and slate products, concerning which I have been unable to get further information.

Agricultural implements.	Engines.	Railroad cards.
Aluminum castings.	Envelopes.	Railroad operation
Automobiles.	Foundry machines and supplies.	(steam and electric).
Banking (clerical work).	Furniture.	Railroad repairs.
Blank book making.	Gas.	Registers.
Bleaching.	Glass.	Rifles.
Book binding.	Gun carriages.	Roller bearings.
Book cloths.	Handkerchiefs.	Sashes and doors.
Boxes (paper).	Hardware.	Saws.
Box machinery.	Hoists.	Scales.
Brass castings.	Iron castings.	Scientific and professional instruments.
Brass products.	Iron and steel tools.	Ship building.
Brick laying.	Light, electric	Ship repairs.
Building.	Lithography.	Shoes.
Canning.	Locomotives.	Silk goods.
Chains.	Lumber.	Stationery.
Clothing (men's, women's, children's).	Machine tools.	Steamship operation.
Composing machines.	Motors.	Steel castings and forgings.
Concrete construction.	Municipal engineering.	Steel products, heavy.
Conveyors.	Musical instruments.	Structural iron.
Cordage.	Optical goods.	Textiles.
Corsets.	Ordnance.	Textile machinery.
Department stores.	Paper.	Typewriters.
Desks.	Paper pulp.	Valves and steam fittings.
Dyeing and finishing textiles.	Power plants.	Watches.
Earthwork.	Printing.	Wire goods.
Electric apparatus.	Printing presses.	Wire weaving machinery.
Elevators.	Publishing.	
	Pumps.	

II. APPLICATIONS OF SCIENTIFIC MANAGEMENT

Before proceeding to a closer examination of the strictly industrial applications of scientific management, which of course constitute the great bulk of those that have been made, attention may be called to certain other activities in which some degree of success has been attained. Noteworthy among these is the work of Mr. Cooke, Director of Public Works of Philadelphia, a disciple of the Taylor school. This work, made possible by the "reform" administration of Mayor Blankenburg, has been marked during its three years of administration by large savings in the operation of that important department of the city's affairs. Owing to the peculiarities of the Philadelphia law, and the constant opposition of Councils and the previous almost inconceivably corrupt state of the department, it has not been possible to make a thoro application of most of the fundamental principles of scientific management. The results attained thus far, amounting to a saving of over \$1,300,000, are due primarily to the injection of simple honesty into the department, and secondarily to the utilization, so far as conditions would permit, of expert knowledge secured wherever it was obtainable. Altho necessarily a crude example of scientific management it has accomplished enough to show great possibilities if a sufficiently long period and free hand were given for its completer development.¹

The Bureau of Efficiency and Economy of the city of Milwaukee has utilized the knowledge and inspiration of Mr. Emerson in the development of its plans; and the Emerson Company has also been consulted by the

¹ See the following: *Annual Reports of the Director of Public Works, Philadelphia, 1912 and 1913. Business Methods in Municipal Works, Dept. of Public Works, Philadelphia, 1913.*

city of Seattle and the office of the Commissioner of Accounts of the city of New York.

Tho the administration of department stores in general is so far behind that of modern factories as to constitute the former a particularly promising field for the application of scientific management, very little has been done in this branch of business. The actual selling of goods presents a problem so complex and with so many variables as to raise a question about the practicability of a complete application of all the present methods of scientific management. However this question may be answered, the administration of a department store includes many factors besides the selling of goods, — such as their purchase, receipt, storage, handling, packing and delivery, — which are essentially the same as the corresponding factory problems; and their costs are susceptible to similar treatment. In one department store, to the writer's knowledge, a beginning has been made on this side of the problem.

The practicability of applying some of the methods of scientific management — such particularly as the handling of raw materials, administration of tool room, and the establishment of standard times for operations — to the work of manual training schools has been demonstrated in a technical training school in New England, and in the department of engineering of the Pennsylvania State College. Suggestions for the wider application of these and other principles to the administration of colleges have been made by Mr. Cooke¹ but so far as I know there has been no opportunity provided for a practical test of their usefulness.

Closely allied to the applications in manufactures and forming a convenient transition to them is the work done

¹ *Academic and Industrial Efficiency*, Carnegie Foundation Bulletin No. 5, 1910.

by Mr. Emerson on the operation of railroads, and by Mr. Day, one of the "Taylor group," on the operation of street railways and light and power plants. Owing to the complexity of the subject and the intricacy of the statistics available, there is dispute over the actual value of the work done on the Santa Fe and other railroads. Railroad statistics may apparently be used to prove or disprove anything, and there is evidence of a bias on the part of railroad men against allowing any value to Mr. Emerson's work. In the absence of an opportunity to make a personal investigation, I am forced to rely on what seems to be the consensus of opinion of judges as nearly unprejudiced as one is likely to find; and this consensus seems to be that on the whole the work was successful in reducing costs and improving administration, particularly in the repair shops and stores systems, while it was not so successful in its application to railroad operation.¹ On a road where special attention was given to increasing freight train loads, the statistical report shows a 25 per cent increase in the average load in one year after the work began. The value of this gain is questioned by railroad men on the ground that other factors supervened during this same period; but on the whole it seems that in this case also the greater share of the credit is due to the scientific management work.

What has been done in connection with the management of public service corporations is as yet not far enough advanced to warrant the formation of final judgment. So far as the efforts have gone, however, they have resulted in a definiteness of control which has made possible the stoppage of many leaks of frequent

¹ See besides Mr. Emerson's own accounts, those of Mr. Charles B. Going, *Methods of the Santa Fe*; F. H. Colvin, "How Bonus Works on the Santa Fe," *American Machinist*, vol. xxxvi, pp. 7, 165; C. H. Fry, *Railway Age Gazette*, vol. xli, pp. 476, 504, vol. xlv, p. 413.

occurrence and have contributed to the determination of the costs and thereby of the reasonable rates to be charged for various types of service.

Returning now to the industrial applications with which this paper will be mainly concerned, it is advisable first to point out the differences in practice between scientific management and other current systems. These differences are most notable in connection with the handling of labor, standardization of materials and equipment, the specialization of administration, and the application of the functional and "exception" principles to the organization as a whole. The primary object of the system is to increase output, reduce the cost per unit of product, and raise the wages of operators. This is accomplished: first, by determining with the aid of experienced investigators the best equipment, materials, and methods to use; second, by selecting and training the workmen best fitted to accomplish the result desired; third, by determining in advance a standard of achievement for the workmen, providing them with the necessary working conditions, and rewarding them with a bonus for attaining this standard. This standard is set with reference to standardized conditions, by which is meant the determination and adoption of the best material and the best equipment obtainable, for exclusive use until a better is found and adopted. In accordance with the policy of specialization, the workman's activity is so far as possible confined strictly to actual handling of the machine or tool and of the material only so far as necessary to apply the tool to it. All other work is the function of the management. This is what is meant by the separation of planning from execution. In order to bring to bear most effectively the specialized planning functions, Mr. Taylor evolved, from the rate-setting department at

Midvale in 1882 to the full complement of foremen at the Fitchburg roller bearing plant about 1900, the method known as "functional foremanship," by which such details of administration as determination of the sequence of operations, machines, tools and methods to be used, time to be taken, relative importance of orders, recording of operations, instruction of workmen, moving of materials and maintenance of equipment and tools, are the special functions of separate foremen, each of whom is responsible for the proper handling of his detail with reference to a varying number of men, and all of whom bring to bear their specialized knowledge on each man. This peculiar type of organization is in every case supplemented for disciplinary purposes by the usual "line" type, in accordance with which there is the customary grading of disciplinary authority culminating in the superintendent or general manager, altho some effort has been made to specialize this function in the hands of a "disciplinarian." In accordance with the theory that the ablest men are or should be the highest in the organization, the "exception" principle is used (at least in all the Taylor plants) by which all matters within the capacity of subordinate officials are finally determined by them and only such matters as are beyond their scope or authority are passed up the line, thus leaving the higher officials free to devote their time to the broadest and most important problems of administration.

These methods are characteristic of what may be called the original form of scientific management as early developed by Mr. Taylor and his immediate disciples. Among those in the first Taylor group Mr. Gantt has made the most noticeable modifications. These consist mainly in simplification of forms and in somewhat less refinement of detail. The exist-

ing form of organization is left by him as nearly intact as the requirements of his central idea permit, while a simon-pure Taylorite aims at a complete re-organization. In practice also it is to be noted that Mr. Gantt sometimes installs a system with the aid of his own staff of men, whom he moves from plant to plant, while the other members of the Taylor group usually do their work personally and alone, getting their subordinates entirely from within the existing organization.

Mr. Emerson's theory differs from Mr. Taylor's mainly in the separation of what he calls the "staff" from the "line." Proceeding on the same principle, the necessity of accumulating the science involved in the industry, he organizes the experts in a staff of advisers whose duty it is to transmit their knowledge to the line officers, by whom it is passed to the operators and put into effect. In other words, this staff has no executive authority, while in the Taylor system the executives are themselves the experts. Practically the Emerson methods differ much more widely than this from those of the Taylor group in that it is Mr. Emerson's policy to establish standards of performance and a bonus for their attainment as early as possible and by methods which are comparatively rough, as will be illustrated in detail later in connection with the subject of time study. Moreover, Mr. Emerson handles his work almost entirely through subordinates, among whom are some whose inadequate training has led to the majority of failures so far scored by scientific management. As Mr. Emerson has expressed it, it is his aim to take a plant that is 40 per cent efficient and make it 65 per cent efficient; and, as he said again, the Taylor system begins where the Emerson system ends.

On account of the emphasis laid by certain members of the scientific management group on the technical and

scientific aspects of their work, it may be worth while to distinguish between the technical and the pecuniary results. It would appear that in some cases the interest in perfecting a method by mathematical and experimental means would tend to overshadow the interest in reducing expense, increasing output, or improving quality. However, a study of the work of the successful practitioners shows that their investigations have always been guided by financial considerations, and in fact in the most conspicuous cases, as in Mr. Taylor's experiments on metal-cutting, have paid for themselves by the savings attained. This coincidence of technological and pecuniary advantage was evident in every plant investigated.

A more important distinction, however, is that between what I have chosen to call "detailed" and "gross" results respectively. While trebling the output of a machine or a group of machines at a slight increase in direct labor cost may be considered a successful result in detail, it does not follow from such instances that the application of scientific management to the business as a whole has been successful. In the absence of information as to the total (gross) result, there may well be a suspicion of the final value of the isolated instances of wonderful improvements which have been so frequently cited. This total result, however, is particularly difficult to ascertain. I have found that while the owners of private plants have as a rule no hesitancy in pointing to individual savings and even net results of sub-systems such as stores, routing, and task and bonus, they are quite chary about the details of the total cost of the system as a whole and the total savings and profits attributable to it. I was able to get this information in a meagre way from a few private plants, but the best, most complete, and most reliable

data on this side of the subject are found in reports of General Crozier, Chief of Ordinance, on the application of scientific management to the government arsenals. These total results will be discussed after the detailed accomplishments have been summarized.

As the central problem out of which Mr. Taylor developed his system was the control of the output of labor and machinery through the accurate determination of what that output should be, from the study of which all the other details of the system grew, it seems logical to discuss this feature first.

The determination of what constitutes "a day's work," or in other words the amount of output which it is possible for a capable workman to produce in a given time with given equipment and materials, rests in the Taylor system upon elementary time study. This was first practised by Mr. Taylor at the Midvale Steel Company in 1882 and is still with some refinements and improvements the central and most visibly characteristic feature of the system. Every plant investigated showed some evidence of time study, ranging from new rates based on recollections of former standards, as in the case of the Bethlehem and Midvale Companies, to the most elaborate and complete records and continuous extension, as found at the Watertown Arsenal and in the majority of plants now actively developing the system. In some industries these studies of elementary motions have been carried to such a degree of completion as to warrant the publication of the results.¹

The most striking differences between the original Taylor form and the derived Gantt and Emerson forms

¹ Thus the elementary times in concrete construction are set forth in Taylor and Thompson's "Concrete Costs," and similar data for the operation of machine tools, gathered over a period of thirty years, and for earthwork, are now in process of compilation for early publication.

of scientific management are to be found in the practical methods and applications of time study.¹ As practised by the immediate Taylor group, a time study is made by first analyzing the operations of a workman on a given piece or on a given machine into their elementary motions; second, determining by any one of several methods what is known as a reasonable minimum time for each of these elements; third, eliminating all elements shown to be unnecessary; fourth, summing up the remaining elements to get a total minimum time; fifth, determining and adding to this a percentage of allowance made necessary by such factors as interference, fatigue, and inertia, and adopting this final time as the standard on the attainment of which the bonus is paid. Mr. Gantt follows the same method except that, as a rule, his studies are not so minute and the allowance is rather more liberal, thus making it easier for the workman to earn the bonus earlier and even to go under the bonus time. The Emerson method is radically different from either of these, in that the analysis of the complete operation goes down only to large groups of elementary motions, on which an over-all time similar to that which has been determined for years in all kinds of plants is ascertained. Emerson's times are expressed in minutes, where Taylor times are in hundredths of a minute. From these over-all times deductions are made according to the judgment of the time study man, and the result is a standard which the workman is not only expected to attain easily but to exceed to a very considerable extent. This accounts for such expressions as 110 per cent or 140 per cent

¹ See the following articles: Taylor, *Shop Management*, pars. 322-408. H. K. Hathaway, *Elementary Time Study as a Part of the Taylor System of Scientific Management*. *Industrial Engineering*, vol. xi, pp. 85-96, also in C. B. Thompson, *Scientific Management*, p. 520: C. E. Knoeppel, "Practical Introduction of Efficiency Principles," *Engineering Magazine*, October, 1914, p. 61.

efficiency, which are possible and have a meaning only with reference to the Emerson type of time study.

Obviously the first cost and the difficulty of the Taylor method are greatest, those of the Emerson method least, and of the Gantt method intermediate. In general it may be said that the value of the results stands in the same proportions, tho none of these methods is without its peculiar advantages and disadvantages. The less elaborate and expensive methods have made it possible, in some plants, to secure the advantages of the task and bonus idea early in the course of the installation of the system and at an expense which is practicable for small concerns to meet; while the more elaborate methods are comparatively slow and costly. The simpler methods have also been applied to some types of work where it is difficult or impossible to standardize and routinize elementary motions, such as drafting and die cutting. On the other hand, the most exhaustive type of time study insures a degree of accuracy and finality which practically obviates the possibility of dispute, provides a stable basis of reward from which deviation is not reasonably to be expected so long as working conditions remain the same, and makes impossible a kind of fraud on the management which is fatal to the success of the system.

It is noticeable also that the Taylor form of time study requires and secures the services of experienced and technically trained chronometrists, whereas the simpler forms are deceptively easy and may be and have been entrusted to inexperienced and incompetent hands. This fact more than any other is responsible for a large proportion of the failures observed.

Motion study is an inherent and inseparable feature of time study and is constantly practised by every expert chronometrist. In some instances it is found

that a stop-watch is not used at all until a preliminary motion study has been made and the operation simplified in accordance with its suggestions. The latest development in this field — the use of moving pictures with a timing device in the field of the picture — has received much publicity but does not appear to have been used to any considerable extent, partly on account of the expense and partly because it has not demonstrated a practical superiority over the methods already current. There appears to be a possible field of usefulness for it in psychological and industrial laboratory work.

In practically every plant where the complexity of the work warrants, instruction cards of more or less elaborateness are used. In many machine shops it is the practice to issue to the workman an instruction card containing not only directions as to feeds, speeds, tools, and major times of operations, but also the elementary operations listed in their proper sequence and with their minimum time given. In other places I found the list of elementary operations is not provided for the workman, but he is given the total time and such sub-periods as may be useful to assist him in earning his bonus. In still other instances, where the work is thoroly standardized, as in book binding and box making, merely the total operation time is given, tho in every case the total times and sub-times are made up in the planning department from the elementary data on file there.

So much has been published in regard to the practical results of time study and instruction card methods that it is unnecessary to go into further detail here. As might be expected, the most substantial improvements have been made in machine shop work, where the highly technical nature of the factors involved has given special

warrant for the assistance of expert investigators. Nothing is more common than instances of two-fold and three-fold increases in output from the same machine and the same workman. Increases from 7 to 10 times are not rare. On the other hand, a type of industry which would not appear to call for any considerable degree of technical knowledge, namely brick laying, has shown equally astonishing results, an increase of from 200 per cent to 300 per cent in the number of bricks laid per day having been demonstrated. With machines other than machine tools, however, it has not appeared practicable to secure such large increases in efficiency except in the direction of reducing the number of men tending one machine or of increasing the number of automatic machines tended by one man. It is not uncommon to find one man who formerly tended two gear-cutting or screw machines now taking care of five; while on the other hand I have seen machines requiring formerly the attention of three men now taken care of by two. With the ordinary run of industrial machines, semi-automatic and each tended by one operator, increases of output appear to range from 30 per cent to 100 per cent, — the majority, so far as I have been able to find, nearer the lower limit. The application of these methods to hand operations has shown very variable results. The extraordinary differences in efficiency between different workers on the same operation are already well known to managers. It is nothing unusual for even so-called skilled workers to do not more than one-third or one-half what others on the same work are able to accomplish, as for example in cigar making. The time study and instruction methods of scientific management have increased the output of hand operators from 10 per cent to about 300 per cent, the majority of the cases lying between 60 per cent and 100 per cent.

Instances have been found, as in the case of gold laying in a book bindery, where economy in the use of material and quality of work were more important than increase in output. These factors have been taken into consideration, the bonus arranged accordingly, and the desired improvement in economy and quality attained.

It must be understood, of course, that the results described do not flow alone from time study and instruction. I found that, in accordance with one of the fundamental tenets of scientific management, the task set for the operator was accomplished only with the utmost assistance of the management as represented in the stores and routing systems governing the standardization, availability and moving of materials, and the inspection system controlling the handling of defective work.

Where scientific management is fully developed the function of the purchasing department is essentially different from the current practice. Ordinarily the purchasing agent has the widest discretion as to what he shall order, when he shall order it, and in what quantities, subject in general of course to the requirements of the business, of which he is one of the chief judges. In the Taylor plants the requirements as to quality, quantity, and time of delivery for all materials are determined by production and technical experts in the plant, and the purchasing agent buys on orders and specifications from the factory, exercising his judgment and discretion exclusively on the matter of price. The governing considerations are the provision of materials for immediate issue when required for orders and the tying up of only such capital and space as are absolutely necessary to meet this requirement. In all instances of successful application, delay due to the absence of necessary materials has been practically eliminated.

In many cases the variety of materials carried has been reduced even to one-tenth of what was customary before. In almost all cases the quantities of certain materials have been reduced and of others increased, to meet the demands as shown by the record of issues. Occasionally, as in the case of several large machine shops, this has made on the whole a substantial reduction in the quantities and value of materials and of the space occupied by them. One manager said that he now carried one-third as much material while doing 50 per cent more business. In some plants, however, investigation has shown that storage facilities and the quantities of materials carried were utterly inadequate, and this has led in such cases to a considerable increase in the storage space including even the addition of new buildings and an increase in capital invested. This increase of capital was not proportional, however, to the increase of space, as the change meant in such cases greater concentration in store-rooms of materials heretofore scattered over the operating area of the plant, and was accompanied by a standardization of material and reduction of the variety carried, which resulted in an increase in the quantity of the standard but a decrease in the total of all materials on hand.

Next to having on hand materials to work with, the most important factor in efficiency is the getting of these materials to the workman, together with the necessary tools and instructions, in the quantity and of the quality necessary, at or before the time he is ready to work on them. This is the function of what is known to scientific management as the "routing system" or (in the Emerson form) as the "scheduling" and "despatching" system. Obviously the complexity of this system will vary with the type of industry. At the one extreme of simplicity is the continuous, non-assembling industry,

such as a sugar refinery; intermediate is such an industry as printing; at the other extreme of complexity are the non-continuous, assembling industries such as the manufacture of machine tools and automobiles. In general it may be said that the need of effective and complete control increases with the complexity of the business. Scientific management has thus far been applied in the main to the more complex and the intermediate type, as will be seen by reference to the list on page 266.

As might be expected, routing systems of varying degrees of elaborateness are found in practice. Many plants, such as certain typewriter factories, manufacture parts for stock, doing only their assembling on order. In such cases the routing of parts is easily standardized and administered; and the routing of the assembling is almost equally simple. On the other hand, several plants were found which manufacture from beginning to end almost exclusively on order, with specifications varying for each job. Repair shops are extreme illustrations of this. In such cases the routing system is necessarily elaborate and complex, and yet even in these is valuable, in the opinion of the managers, for the very reason that the variety and complexity of orders makes all the greater the danger of error, waste of materials, unnecessary motion, and delay at the machine. As the routing system usually involves the preparation of separate job tickets, inspection orders, and move orders for each operation, its complexity is again influenced by the relative length of the separate operations. In one plant or part of a plant the piece or the lot may be at a given machine from four hours to ten days, as at the Watertown Arsenal. If this condition predominates, the number of orders to be written and handled is relatively small. Such is usually the case in machine

shops. On the other hand, operations on individual orders and at each machine may be very short, ranging down from twenty minutes to two or three minutes, as in a stationery concern or a plant manufacturing small electric apparatus on orders. Where these predominate, the amount of clerical work and handling of orders is necessarily relatively great. This has in fact presented one of the most serious problems that scientific management has had to solve. There is usually a choice between an expensive completeness of control and a relatively inexpensive but risky incompleteness; and I do not believe it can be said that this problem has as yet had a thoroly satisfactory solution. Where these conditions exist, the routing system of the original type is sometimes used in spite of its complexity, in the belief that it is indispensable to the successful administration of the task and bonus.

The intended result of the routing system is the complete control of the sequence and time of all operations, including moving from one operation to another. This result has been attained with varying degrees of success. In many plants the work in the factory is unquestionably controlled from the planning department, with only such assistance from shop foremen as is necessary to keep things moving and to carry out the orders of that department. In many cases, however, numerous exceptions to this control were evident, ranging all the way from leaving in the hands of the foremen control of the moving of materials or the assignment of work to specific operators, as at the Link Belt Company, to the entire administration of whole groups of work according to the old methods, as in the tool department of an automobile factory. In almost every case these conditions were said to be temporary, awaiting only the opportunity to extend the routing system to cover every detail of opera-

tion. In a few cases, however, it was stated to be a policy definitely pursued and to be continued, because either of the rapidity or the variety of operations or their infrequent recurrence.

Evidence of the effectiveness of the routing system is to be found everywhere where it has been fully developed. Work goes through with a speed and certainty unknown to former types of administration. In printing plants where practically every order is marked "rush" careful planning and coordination of work have practically eliminated the hurry and confusion which usually accompanies a preponderance of "emergency" work. The manager of one large plant reports that this result alone has justified the installation of his routing system. Waiting for work by the operator has been practically eliminated and prompt delivery has become a rule in plants which practically never before were able to meet a promise date. One automobile manufacturer who has developed the stores and routing systems, but not the task and bonus, says that the routing system alone, a most elaborate one, has unquestionably saved him \$750 per car. In other plants testimony varies (according to the type of industry) as to whether the routing system alone has been an economical institution; but where these plants have gone on to the development of task and bonus, they are unanimous in their assertion of its value as an indispensable accessory to that feature of management.

With reference to the inspection of materials, scientific management differs from other current types mainly in its insistence on what it calls "first inspection," by which is meant the inspection of the first piece in a lot rather than waiting for the entire lot to be finished before it is inspected, the object being to detect misunderstandings and inaccuracies at the beginning of

the operation and before more than one piece has been spoiled. With this has gone in most cases an increase in strictness of the final inspection also, considered necessary in order to counteract the possible tendency to neglect quality in favor of speed. In all cases the accomplishment of the task and earning of the bonus is contingent upon the satisfactory quality of the work.

An obvious result of the "first inspection" has been the reduction of waste; but more far-reaching and rather unexpected results have followed from the entire inspection system. The first of these has been the general improvement of operating methods which a rigid inspection has suggested and finally brought about, as in a box factory, where the close inspection of lined board led to an entire overhauling and revision of the methods of board lining; and the second has been the substantial improvement of the product which seems always to have marked the development of scientific management methods. Thus in one instance an American plant manufacturing roller bearings which heretofore had been unable to compete with European makers has so improved its quality as to secure a foothold for it in spite of foreign competition.

One of the first results of the application of the methods of elementary time study was to make evident the importance and necessity of standardized conditions. Time study itself suggested means by which the working conditions of the operator could be made as perfect as practicable. A task set for one operator under these conditions and offered for acceptance to all workers logically required the establishment of similar conditions for the entire group. Out of this very quickly grew the policy of standardization of materials, equipment and plant — a policy which has been systematically pursued with rather spectacular results throughout the history

of scientific management. First among these results must be mentioned the discovery of high speed steel by Mr. Taylor and Mr. Maunsel White. This discovery was a by-product of the effort to standardize the tools with which the task was to be performed. Many illustrations of the same type of thing on a smaller scale might easily be given. Suffice it to say that almost every plant now using scientific management in its original form has reduced its main material requirements to specifications, and that in many cases these specifications are for materials standardized and improved to meet particular requirements.

Concurrently with the standardization of materials has gone that of equipment. Mr. Taylor's work in the standardization of cutting tools and of belting is characteristic and famous, with that of Mr. Barth on machine design and also on belting running a close second. This work is of course still going on; and each new industry and even new plant is presenting opportunities brought out by time study for the continuous modification and improvement of equipment, the aim being always to increase the capacity and endurance of the machine and the ease with which it is handled by the operator. This extends also to small equipment such as trucks and hand tools. Usually, however, these efforts have been directed almost exclusively toward the immediately productive side of the plant, while the equipment for clerical work has been comparatively neglected — so much so that one is rather struck with the clumsy and inconvenient mechanisms often found in planning departments.

Because of the policy of scientific management to utilize existing plants to the utmost extent and postpone construction of new plant as long as possible, there has not been the opportunity for the application of scientific

principles to design, construction, and layout which one would like to see. Nevertheless, one engineering company has made a specialty of designing plants in which scientific management is to be applied, and has produced a number of strikingly successful buildings from the point of view of convenient arrangement of departments and machines within departments, and the utilization of the best means for securing light, heat, ventilation and sanitation. In the older plants, however, one is at times surprised to find how little attention has been paid to these details, with the exception of the arrangement of machinery, which is usually adequately taken care of. Lighting has had special attention in a few cases where the demand was imperative, and heating and ventilation in even fewer still, and on the whole it cannot be said that these important matters have had the attention they deserve. An investigator cannot but be unfavorably impressed by the dinginess and stuffiness of some of the plants which in other respects are such good examples of modern management. This condition is the natural result of the policy of owners who insist on all attention being given to those conditions which most directly and visibly affect the output.

At the same time that scientific management was developing into its present form, the subject of cost statistics was engaging the attention of managers and experts. This detail of management in fact spread its influence far more rapidly than the more fundamental movement, partly on account of the fallacious feeling of useful knowledge that statistics are apt to give and the comparative ease with which they may be secured. To Mr. Taylor and his associates costs, tho of course important, are secondary to productive efficiency. Mr. Taylor was one of the earliest of the professional cost

experts, and the cost system that he evolved and that is now in use in a few plants is as simple as is consistent with effective ascertainment, recording, and distribution of expenditures. Without going into technical details, one of the distinctive features of the Taylor cost system is the use of the forms for the issue and movement of materials and for the control of operations as the original data for cost keeping. It is not the practice of scientific management experts, however, to insist on the use of this system, provided clients already have a sufficiently accurate system in operation. In a few instances, however (including a department store), I found that the cost system alone had been put in with results apparently satisfactory.

It has been pointed out many times that the principles characteristic of scientific management which have proved themselves capable of such successful application to production might and should be extended to cover the domains of selling and financing, with of course such modifications of method as the different problems presented by these subjects suggest. Thus far, however, the merest beginning has been made in this direction. One plant, a machine shop, has applied to its sales organization the principles of analysis of product, training and routing of men, and coöperation between the management and the salesmen, which it had long used in its production department. This is a small concern, however, and the methods thus far developed and the results attained, tho satisfactory, cannot be said really to show the possibilities of a thoro application on a large scale.

The real test of the success of a system of management is not to be found in such isolated examples as have been cited but rather in its net effect on the business as a whole. For obvious reasons it is difficult to

get accurate information in regard to this from private plants. The most detailed exhibit of total costs and total results is to be found in the reports of the Chief of Ordnance on the application of the system to arsenals, particularly those at Watertown and Springfield, Massachusetts, and Frankford, Pennsylvania. These results show in one year:—

Savings from improved shop management, and premium system	\$240,461.93
Savings resulting from the use of surplus stock ..	122,789.61
Total	\$323,251.54 ¹

One private concern, manufacturing molding machines, reports that its product is now three times what it was before it adopted scientific management, while its total force has remained the same. Another is producing slightly more than it did six years ago with a little over two-thirds the force it then had. Another plant manufacturing automobiles (already referred to) reports that it is saving \$750 per car; while still another, in which the application of the system has extended only over one year, reports already a saving of \$100 per car. Another plant which had passed its dividends for several years found itself in a position, partly as the result of the development of the system, to declare a dividend of 18 per cent. A structural iron concern reported that the total cost of installing the system, \$18,000, was recovered by it in savings effected within three years. The results of the application of scientific management to the Santa Fe Railroad are hotly disputed; but on the whole it seems clear that considerable economies were accomplished.

The gross results, however, are not always so favorable. There have been partial successes and unques-

¹ See Gen. Crozier's Report, for 1912, 1913, and 1914.

tioned failures, to say nothing of one curious example, a textile machine shop, which at the end of three years apparently showed a failure but in which a sudden access of energy brought about a complete and striking success. Failures, as will be shown in detail later, have been in some cases due to the financial inability of the concern to stand the cost of introduction over a sufficiently long period. In a few instances this condition was accentuated by panic conditions as in 1907; in a few others the cost was excessive by reason of incompetent "experts" and the setting of tasks so crudely as to make possible excessively high bonuses. In general it may be said that wherever the development of the system has been allowed to be carried through to a conclusion, the outcome has been satisfactory; but that in some cases the cost of development and the slowness of returns has resulted in stopping the work long before it was completed.

III. EFFECTS ON EMPLOYEES

Thus far we have been discussing the results of scientific management from the point of view of the employer. A movement, however, which has already affected over 63,000 employees (including about 20,000 in transportation in addition to the 43,000 in industrial plants), and which bids fair to extend to a much greater number, must be considered with equal care from the point of view of its influence and effect on the workman. Owing to the great number of units involved, an exhaustive survey of these effects will be out of the question for other than government agency. Miss Edith Wyatt investigated personally and rather fully the effect of scientific management on the woman employees in three plants.¹ The House Committee on Labor of the

¹ See Clark and Wyatt, *Making Both Ends Meet*, Chapter 7.

62d Congress made an investigation as the result of a brief strike at the Watertown Arsenal, and its findings are published in connection with their report.¹ General Crozier has gone fully into the question in his annual reports on the application of scientific management in the arsenals.² My information is derived chiefly from these sources, supplemented to some extent by such personal investigation as I have been able to make.

First as to wages. In no case that I could find were the basic rates lower than those customary in the industry and locality involved. In every case where the development of the system had progressed to anything like completion, the bonus principle was being effectively applied. Bonuses are figured in a variety of ways, which it is unnecessary to go into here. By the Taylor and Gantt methods a considerable degree of efficiency has to be attained before any bonus at all is paid, but when the bonus point is reached the amount of premium is comparatively large, ranging from 25 per cent to 100 per cent. By the Emerson method a bonus is paid for any increase above 67 per cent of the standard efficiency on a given job. This bonus reaches 20 per cent when the standard efficiency is attained and one per cent is added for each one per cent increase in efficiency. The Taylor method of time study and task setting makes it exceedingly difficult for workmen to exceed the task to any considerable extent; while by the Emerson method an exceptionally good workman is expected to go far beyond 100 per cent, and in practice has often done so. For this reason the range of bonus earned in the Emerson plants is from zero to 300

¹ *The Taylor and Other Systems of Shop Management*. Special Committee to investigate the Taylor and other systems of shop management, Government Printing Office, Washington, 1912.

² *Annual Reports of the Chief of Ordnance, 1911, 1912, 1913, 1914*, Government Printing Office, Washington.

per cent or 400 per cent; while in the Taylor and Gantt plants it has ranged from 20 per cent to about 100 per cent.

The proportions of bonus earners to non-bonus earners also vary widely, depending partly on the degree of completion of the development of the system and partly on the policy of the management. It is the general expectation of the consulting engineers that the bonus will be applied sooner or later to about 90 per cent of the employees, the other 10 per cent being engaged in types of work which for one reason or another are not susceptible to the task and bonus method. This was found, with one exception, to be the aim of the management. That exception was a foundry in which the manager explained that it was necessary to apply the bonus only to one out of three employees, as the increased efficiency which this incentive produced in him would compel the others to keep up with him. It must be said, however, that this is utterly contrary to the policy and method of the experts themselves and that, in general, no such method can be expected to succeed. In practice it was found that where the system had been in operation three years or more, there were from 50 per cent to 85 per cent of the employees earning bonuses ranging from 10 per cent to 60 per cent or 70 per cent. In addition to this there was at least one plant using the Taylor differential piece rate in which the low rate is 10 per cent above that prevailing in the community, while the high rate is 43 per cent higher.¹

One case was found in Chicago in which the bonus system was being abandoned because in the opinion of the management the men had not sufficient ambition to

¹ See Appendix I, Report of the Chief of Ordnance, United States Army, 1913, for tables giving experience at Watertown Arsenal.

stir them to take advantage of it. An investigation showed, however, not only that the men were on the whole rather shiftless but that the form of bonus offered by the management was not calculated to act as a powerful incentive. It can be said in general that the bonus method, when employed in the form recommended by the experts, has acted uniformly as a stimulus to increase efficiency, and that the claim that scientific management has invariably raised wages is easily substantiated by the facts.

It is pertinent to inquire, however, whether the increased wages due to increased output are obtained at the cost of the health of the employees. This question also was fully investigated by Miss Wyatt, with the conclusion that not only was their health unimpaired but that, on the contrary, the conditions under which the maximum efficiency is secured have led to improvement in health. The investigation at Watertown Arsenal was unable to find any case of injuries to health traceable to the system. Since that investigation it has been alleged that there has been an increase of accidents at the Watertown Arsenal. The analysis by General Crozier shows, however, that the increase of accidents has been among those who are not yet working on task and bonus; while for those who are operating under the Taylor system there has been, on the contrary, a decrease of accidents.¹

¹ This point is so important that it is worth while to give General Crozier's statement regarding it. "Careful record of all accidents is kept at the arsenal. Most of the accidents occur in the machine shop. During the fiscal year ended June 30, 1913, the total number injured in this shop was 34, of which 5, or 14.7 per cent, were working on premium at the time. During the fiscal year ended June 30, 1913, 57 persons were injured in the machine shop, of which 13, or 22.8 per cent, were premium workers. During these two years the number of workmen employed in the machine shop remained about the same, but the amount of premium work increased nearly fourfold. That is, while the amount of premium work increased about 300 per cent, the percentage of accidents to premium workers increased only 8.1. During the nine months from October to June, 1913, 33 machinists were injured, 10 of whom, or approximately 30 per cent, were premium workers. During this same period 44.8 per cent of the work

The attention given to the reduction of fatigue early in the development of scientific management is familiar to all who have read the accounts of the work of "Schmidt," the pig-iron handler at Bethlehem, and of the inspector girls at the roller bearing factory in Fitchburg. The necessity of making an allowance for fatigue in establishing a task is too obvious to call for comment; and it is now as always an essential part of the work of an experienced chronometrist to take this factor into account, not merely with reference to the motions of the operator but with reference to the redesign of machines and equipment to the end of reducing the necessary motions to a minimum. The result of this process is well illustrated in the case of a machinist I saw in Philadelphia. This man is now operating five automatic gear cutters instead of the two which used to be considered his limit. In the handling of the gear blanks the worker showed a precision and ease of movement resulting in the maximum of accomplishment with the minimum of effort, which is in the strongest contrast to the nervous haste which in most plants is accounted speed. Incidentally it may be noted that this man is now earning \$11 a day.

One difficulty has been found in a few instances of over-eagerness of employees to undertake larger tasks than those proposed, with the idea of earning larger bonuses. In two plants, employing girls mainly, in which this condition arose, operators were allowed to try the larger tasks under the supervision of the factory nurses. In one instance the new task was obviously too great for the operator; in the other, altho the operator seemed to be able to accomplish it, it was felt that the arrange-

in the machine shop was premium work. It thus appears that the percentage of accidents among the premium workers was less than the percentage of premium work; that is, that the greater proportion of accidents during these nine months occurred among the day workers." Report Chief of Ordnance, 1913, Appendix I, p. 68.

ment might not be permanently satisfactory; so in both cases they were put back on the tasks as originally set.

The extent to which the interest, loyalty, sobriety, thrift, and ambition of employees are increased, as is claimed by the advocates of scientific management to be the natural and usual result of their work, is difficult to determine in detail. If one may judge from rapid personal inspection of employees at work under the system, there can be no question of their closer application and deeper interest in the work they are doing. This interest extends beyond their own work to that of the management. Inasmuch as the success of the worker in earning the bonus depends partly on the smoothness with which the administrative department is conducted, the foremen and other executives receive numerous and forceful suggestions on this score if anything goes wrong. I have often seen workmen reminding their "bosses," in no uncertain terms, of their failure to live up to their managerial responsibilities. In fact, the authority of the operators within their own sphere is one of the outstanding peculiarities of a scientific management plant.

Perhaps the most striking evidence of loyalty of employees under scientific management is the length of time they remain with their plants and the relatively infrequent changes in the payroll. This has further been illustrated in the demonstrated difficulty or impossibility of inducing even union employees in these plants to walk out or stay out in sympathetic strikes, as was the case in Philadelphia in 1910. With reference to sobriety, experience has shown that immoderate drinkers are incapable of standing up to the work, with the result that they have gradually eliminated themselves from these plants. Thrift and ambition are

qualities which cannot be created by scientific management, but the opportunity for their exercise may be provided by a favorable environment, this environment including high wages and the recognition of superior ability. Such an environment is provided by the system, and my observations confirm those of Miss Wyatt to the effect that the favorable conditions are being taken advantage of. On the other hand, there have been a few instances where a tendency to extravagance and dissipation has also been increased by the bonus.

An investigator is forcibly struck by the notable increase in the personal efficiency of operatives who have worked for any length of time on task and bonus. This is the logical result of the intensified personal instruction given them by the management. Another consequence of this instruction has been the development of employees to the promotion point faster than it was possible to find openings for them. This condition has occasionally been met by finding them better paid and higher positions in other plants. Another characteristic result has been the broadening of the technical proficiency of the employee which follows from the method sometimes pursued of training them in several varieties of work, in order to interchange them from one department of a factory to another to meet seasonal fluctuations of the demands in various departments. The possibilities of this policy have not, however, by any means been exhausted.

While the results just described apply to the great majority of workers affected by this system, there is no doubt that there have been instances of less satisfactory consequences. It seems generally true that in the first application of time study methods, the operators studied are made considerably discontented and "ner-

vous " by the process. While as a rule this nervousness and discontent soon disappear, there appear to be some men who never get used to time study. A competent practitioner recognizing this fact transfers his time study to some other operator, in which case the individual too nervous to be made the subject of a time study usually has no objection later to accomplishing the resulting task. There has also been at the beginning of development in various plants considerable dissatisfaction with the share of the increased profit paid to the workman as a bonus. They have not been able at first to see why, if production is increased 100 per cent their wages should be increased but 30 per cent. A brief explanation, however, of the part taken by the management and the expense undergone by it in providing the conditions under which the increased production is alone possible, has in the great majority of cases been satisfactory to the employee.

While the task is set for the average good worker, it has purposely been made sufficiently difficult to act selectively, and there have been employees unable to accomplish it at first who in their discouragement have left their jobs before they had reached the bonus-earning point. In addition to these there are undoubtedly some who were incapable ever of attaining the standards set. Bonus records as kept in various plants, however, show that the proportion of these employees is very small. On the other hand, I have been unable to find any evidence of overstrain in the effort to earn the bonus.

The question has been raised whether the rigid standardization of processes and the precise instructions to workmen have not tended to suppress initiative, judgment, and progress. Strange to say, the only evidence I have found of this has been on the part of the

consulting engineers themselves, with some of whom the comparative perfection of methods developed ten years ago has tended to preclude the admission of the possibility of advance through any apparently radical or substantial change. With the workmen, however, it is generally true that the greater skill resulting from standardization and instruction has led to a correspondingly greater confidence and freedom of initiative and suggestion, and many of the detailed improvements worked out in practice are credited by the experts to the workmen themselves.¹

IV. RELATIONS WITH THE PUBLIC AND WITH ORGANIZED LABOR

When we turn from the employer and the employee to the third party in interest — the public — we find the available data to be quite limited, due mainly of course to the comparatively short time that scientific management has been a real factor in industry and the relatively small proportion of plants using it. There is sufficient information available, however, to point to far-reaching ultimate social effects and consequences. In this paper such facts as we have will be briefly stated and the discussion of economic tendencies with probable results continued in a later issue. That scientific management has had the effect of raising losing concerns into the profit-making class and thereby retaining a certain degree of competition which might otherwise have been reduced has been evident in several cases, some of which have already been pointed out in our discussion of gross results.

There is no strong evidence at the present time to show that the increased efficiency of scientific manage-

¹ See C. B. Thompson, "The Case for Scientific Management," *Sociological Review*, vol. vii, p. 315.

ment has resulted in lower prices to the public, for the reason that most of those now using it stand in a quasi-monopoly position in which there is no necessity for them to reduce their prices substantially below those of their competitors, notwithstanding their larger profits. An interesting question is being raised by the fact that public service corporations operated under scientific management are in a fair way to show unusually large profits based on rates which would be considered normal for concerns operating by the usual methods. Will public service commissions apply to these more modern concerns the 8 per cent rule, thus depriving them of the benefits of their superior management? The one instance in which the public has benefited conspicuously by the reduction of price is in a very highly competitive industry—the automobile industry—in which the reduction in the selling price of the car was apparently the essential condition on which the concern could live. In this instance a car selling with small profit at \$2,950 has been reduced in price to \$2,150 with a considerable increase in profit. This result is said by the company without qualification to be due to the application of scientific management.

The one phase of the relations of scientific management to the public on which considerable information is available is that of its relations with the labor problem and more particularly with organized labor. The social import of the general increase of wages through the bonus for the individual employee varies of course with the number of employees involved. Thus far it is safe to say that it has affected about 40,000. These are widely scattered, however, and no notable social advantage has accrued. The selective methods of scientific management would appear to have some bearing on the problem of unemployment. Thus far it has been

the consistent policy of consulting experts never to discharge an employee on account of changes in the system of administration. It is also their policy to spur the management to such an increase in its selling activity as to take up the expected increase in production as rapidly as the latter is attained, hoping thereby to retain or even add to the number of persons employed. In many cases the management has succeeded in increasing its sales in the manner and with the result suggested. In other instances, however, the result has been ultimately a decrease in the number employed, brought about not by the discharge of employees but by refraining from filling the places of those who in the natural course of things drop out. The dropping out process has also been facilitated somewhat by the application of the task and bonus, as a result of which those who are for any reason dissatisfied with it seek employment elsewhere. The net effect of these changes, however, involving as they do but a small part of the total number of employees, widely scattered, and resulting from a process necessarily slow in its development and carried on by a small number of practitioners, is exceedingly slight; and it cannot be said that scientific management has as yet, no matter what its future influence may be, affected the problem of unemployment.

The American Federation of Labor, however, has devoted a considerable share of its attention to what it considers the dangers of scientific management. The agitation against it seems to have originated in the International Association of Machinists. In 1911, Mr. James O'Connell, at that time president of the Association and now a member of the National Industrial Relations Commission, issued a fiery circular to his constituents condemning wholesale his conception of the Taylor system. The strike of the molders at the

Watertown Arsenal in 1911 drew the attention of other labor leaders to the system, and Mr. Frey of the International Association of Molders and Mr. Duncan, first vice-president of the American Federation of Labor, Mr. John Mitchell, and many other officials, have since taken up the cudgels vigorously. Their opposition is aimed primarily at the possible weakening of the cohesion of organized labor under scientific management based on known facts; and particularly against the insistence on individual bargaining, which has marked the practice of Mr. Taylor and his associates.

At the Seattle Convention of the Federation in 1913¹ and the Philadelphia Convention in 1914,² resolutions condemning the system were adopted. At the same time a determined effort has been made to introduce and pass through Congress a bill to prohibit the use of the stop-watch or any premium or bonus system in any plant operated by the government, aimed of course at the Taylor system as developed in the arsenals.

The resolutions and speeches of labor leaders and their congressional advocates have thus far been marked by a conspicuous lack of information in regard to the system they are condemning; and scientific management exponents and managers of plants using the system have observed a great reluctance on the part of these leaders to avail themselves of the opportunities frequently offered them to secure at first hand the information for intelligent dealing with the subject. The exhaustive investigation of the House Committee on Labor of the 62d Congress resulted in a report recommending that no legislation³ be made, as the

¹ See Report of Proceedings of the Thirty-Third Annual Convention of the American Federation of Labor, held at Seattle, Washington, November 10 to 22, inclusive, 1913, page 299.

² See Report of Proceedings, p. 326.

³ Report of Special Committee to Investigate the Taylor and Other Systems of Shop Management (62d Congress, 2d Session, House Report 403, 1912).

deleterious effects alleged by the opponents of the system had not been found in practice. The House Committee on Labor of the 63d Congress, without an investigation, reported a bill proposed by the labor unions;¹ but this bill has not come to a vote.

Thus far Mr. Taylor and most of the other practitioners of scientific management, while recognizing the historical benefit of labor organizations, have insisted that there is no need for them in plants enjoying the favorable conditions for labor created by their system, and further that in such plants there is no place for collective agreements, inasmuch as in their opinion all the matters which might be made the subject of collective bargaining are matters of fact determinable by experiment and not subject to agreement or opinion. They insist further that in their experience there has been no necessity for considering particularly relations with labor unions and that such consideration would only add to the already large difficulties of their work.

In spite of the fact that many of the plants now using scientific management have among their employees members of unions, and notwithstanding the public opposition of labor leaders, the only instance of actual organized opposition to the original Taylor system was that at Watertown already referred to, where the molders walked out during the absence of the consulting manager and on account of a detail of the work begun without his authorization. This difficulty was soon adjusted, the men went back to work and have been working continuously since, altho in the meantime the matter has been taken up by their official leaders and made the subject of petitions to the Secretary of War.²

¹ See Hearings before the Committee on Labor, House Report, 63d Congress, on House Report 8662, April 17, 18, and 20, 1914.

² See Appendix to Report of Chief of Ordnance, 1918. Government Printing Office, Washington.

and the agitation in Congress already described. There have been a few instances of "labor troubles" in connection with the installation of certain derived forms of the Taylor system, due in general either to the bungling of a subordinate on the job, as in the case of a plush mill, or to the irreconcilable attitude of the union leaders, as in the case of the engineers on the Sante Fe. In other plants there have been conferences in a few instances between the management and representatives of local unions concerning details of administration, and arrangements satisfactory to both sides have been effected. In a few cases the extension of scientific management from unorganized parts of the plant to other departments highly organized has been delayed on account of the fear of labor union opposition. In several instances efforts of organizers to unionize departments using the system have failed on account of the satisfaction of the employees with the conditions of their work. In one plant where scientific management was fully developed and in complete operation, the management, for reasons unconnected with the system or with working conditions, has itself authorized and aided the organization of its employees. In the great majority of applications, however, there is no attention paid to the question whether the employees are unionized or not; and local unions conversely have ignored the development of the system.

That the general satisfaction of the employees under scientific management has had a stabilizing influence in the direction of industrial peace has been illustrated in a number of instances like that already cited of the general strike in Philadelphia in 1910. In other plants, during the I. W. W. agitation in 1911-12, the employees kept themselves well outside the drift toward that organization. It is evident on the whole that the reali-

zation by the employees of the fact that scientific management automatically provides, at no cost to them, higher wages and better working conditions than can be shown by labor organization, has weakened the hold of the latter upon them. When to this is added the instinctive defense of the principles of collective bargaining, restriction of output, and uniform wages, by the labor leaders and the reaction to a fighting attitude on the part of some leaders in scientific management, we have the chief factors to which must ultimately be laid the persistent opposition of the labor officials.

V. FAILURES AND THEIR CAUSES

It is well known that the efforts to apply scientific management have not met with uniform success. The results have ranged all the way from absolute failure, by which is meant the complete cessation of work on the system at any point in its development and the rejection of what had been already accomplished, to complete success, by which is meant the development and retention of all details of the system in their application to at least one complete department of a plant. Between these two extremes are many cases of partial success, by which is meant the development and retention of some important detail such as the stores, routing or cost sub-systems. Of the 107 industrial plants for which information on this point is available and in which the work has progressed far enough to warrant formation of a judgment, 58 may be called complete successes, 15 partial successes, and 34 failures; 29 of these 34 failures are connected with the derived forms, constituting 38.6 per cent of the applications of such forms, while 5 are connected with the original Taylor forms, constituting 9.4 per cent of their applications.

Of the 17 cases now to my knowledge in process, there is good reason to suppose that 15 will be partial or complete successes and 2 probably failures.

An analysis of the causes of failure shows a noticeable concentration about two factors — the personality of the consulting engineers and the personality of the management. Several failures are due to the inexperience and incompetence of the so-called “experts” put on the job; others to their lack of adaptability to new conditions or to the personality of the owners; and still others to an unwillingness on the part of the expert to familiarize himself personally with the shop operations. In at least two cases the experts spoiled their chances of success by indulgence in impractical and expensive experiments. In one instance the wholesale importation of outside men (made necessary, it is true, by the unwillingness of the management to provide men from its own staff) was a large contributing factor.

On the other hand, even more cases of failure are due to the management itself. Chief among these has been the spasmodic way in which owners, without due investigation or realization of what the development of scientific management meant, have rushed into it only to begin to vacillate before the engineers had had time to produce any substantial results. This has been the case particularly where the owners have gone into scientific management in response to advertising or other forms of solicitation. In a considerable proportion of the failures there has been marked dissension in the management, notably in certain instances where the foremen have for a long time enjoyed practical control of the business. This condition is fostered also by absentee control, or control by financiers or lawyers unacquainted with the practice of industrial management and therefore unable to adjust the inevitable

difficulties which arise between subordinate officials and experts in almost every case. There must be mentioned also a few cases where the sheer incompetency of the management made success under any system impossible.

In a fairly large proportion of instances failure was due to the financial inability of the owners to carry through the development they had begun. Occasionally this has been due to lack of foresight, but in the majority of cases to the supervening of a period of severe business depression such as occurred in 1907 and in 1913-14. In one or two instances this has been complicated by the cessation of sales for the product manufactured, due either to a change of public taste, as in the case of a factory making bicycle roller bearings, or the failure of the selling organization, as happened in a garment factory. In but one instance to my knowledge has the threat of labor difficulties been even partially responsible for failure, and here the situation was so complicated with financial troubles (in 1907) and an unsympathetic management that it is difficult now to determine precisely what weight should be given to this factor.

As may be expected, these causes of failure have in practically every case operated in combinations of two or three or more. The striking fact deducible from the investigation is that, with one possible exception, the failures have been due entirely to the experts or the managers and owners or both, and never to difficulty with workmen—and this independently of whether the workers were organized or not.

VI. GENERAL INFLUENCE OF THE MOVEMENT

A discussion of scientific management would not be complete without some reference to the influence of the movement outside of its recognized application. It is safe to say that scientific management shares with the modern movement of cost statistics the credit for the wide-spread interest in the improvement of methods and details in factories of every type. Cost systems are easier to develop and apply than production systems. They have, therefore, had many more exponents and are far more generally found. Their showings, however, have had the direct result of pointing out the necessity for production systems to eliminate waste made evident by cost statistics; and the two movements have, therefore, gone hand in hand, altho "production engineering" just now is belatedly coming into its own. A brief perusal of the many factory and technological magazines and journals, and of the proceedings of the numerous meetings of manufacturers' associations, gives the clearest evidence of the large share of attention factory managers and owners are now giving to modern production systems.

It is also to be noted that since the attention of railroads was so forcibly called at the famous Eastern Rate Case hearings in 1911 to the work on the Santa Fe, they have been considering with a great deal of seriousness, tho with little or reluctant acknowledgment, the kind of detailed analysis, supervision, and development from a new point of view which was then shown to be possible and profitable. This tendency will doubtless gain in momentum as the railroads recover from the strain of public criticism brought out at that time. It will be aided also by the development of more refined and minute cost methods which are

only just beginning to make themselves felt. That the systems ultimately developed by the railroads will be similar in appearance to those now found in factories operated under scientific management it would be rash to assert. But it is safe to say that the application of similar principles to their particular problems is being made to some extent and will be carried to far greater lengths in the reasonably near future.

Certain of the fundamental principles of scientific management, such as the economy of motion, energy, and time, and the detailed control and coördination of the work of organization, have made an effective and practical appeal to the professions. This is evidenced by the movements for greater efficiency in education, legal administration, and even in the conduct of social service, churches, and religious organizations.

And, finally, must be noted the radical change which the wide-spread publicity given the scientific management movement has brought over the popular conception of efficiency. Heretofore the policy of doing one's every-day work in the most perfect way has been considered a matter of aesthetic satisfaction, an artistic pleasure, and therefore to be pursued only in accordance with the dictates of one's "temperament." Now, however, the conservation of personal effort is interpreted as an important phase of the broader movement for the conservation of all resources. It is considered economically advantageous, and, therefore, a personal and social duty. The general acceptance of this attitude will prove, in the long run, I think, the greatest social benefit that will have flowed from the work of Mr. Taylor and his associates.

C. BERTRAND THOMPSON.

SCHOOL OF BUSINESS ADMINISTRATION,
HARVARD UNIVERSITY.

MONOPOLY OR COMPETITION AS THE BASIS OF A GOVERNMENT TRUST POLICY ¹

SUMMARY

The problem must be attacked on grounds of theory, 308. — Maximum satisfaction and the law of the equalisation of marginal return, 311. — Monopoly and competition not antagonistic, but supplementary, 315. — The endeavor to suppress combinations misdirected and futile, 318. — Competition leads to overcapitalization, i. e., excessive capital investment, in certain industries, 321. — Existing Kartells do not represent advantageous monopolistic organisation, 322. — Criticism of the American trust legislation of 1914, 324.

THE question of government regulation of trusts, long an unsolved problem of American economic policy, has received renewed attention since President Wilson's inauguration, and is now leading to new trust legislation. I take pleasure, therefore, in complying with the request of the editor of this Journal for an expression of opinion upon the latest phase in the campaign against trusts in the United States. In accordance with his desire, I shall connect my discussion with the articles by Professor Durand which appeared in recent numbers of the Quarterly Journal. I do this the more willingly because the point of view from which Professor Durand proceeds to discuss the problem is the same as that which I have found necessary to adopt in preparing a third edition of my book, *Kartelle und Trusts*. Professor Durand emphasizes what has already been pointed out by others, and in my opinion is undeniably correct, that the whole Kartell and trust problem resolves itself into the general problem of the benefits and evils of free competi-

¹ Translated by H. R. Tisdal.

tion on the one hand and of monopoly on the other, and that the decision is a task for economic theory, and is to be obtained only by means of it. The carefully thought out articles of Durand, in which the facts are subjected to critical examination, show clearly that no conclusion as to the general significance of monopoly and competition for economic activity can be drawn from such of their effects as have been hitherto ascertained. A final judgment as to the advantages and disadvantages of the one or the other principle of organization cannot be given. Whether a system of free competition or one of monopoly would make possible the more complete satisfaction of wants can be decided with as little finality from previous experience with American trusts as from that of German Kartells. A scientific conclusion can be drawn only from theory, — from “general reasoning,” as Durand says. The theoretical views can, at the most, merely be confirmed by observation of fact.

Tho I thus agree with Professor Durand concerning the point of departure from which to approach the problem, the conclusion at which I arrive as the result of theoretical consideration is rather the opposite of Durand's. Durand takes his stand for free competition and it is his endeavor, as it has been that of American trust policy at all times, to crush the trusts and to restore and maintain freedom of competition. The advantages of free competition, that supply is better adjusted to demand, that it brings about lower prices to consumers, and so on, have been pointed out so often that it appears unnecessary to enter here into detail concerning them. The whole body of economic doctrine as hitherto accepted took this standpoint; and in consequence, it seems an almost hopeless venture to wish to defend another basis theoretically. Moreover

it has never been attempted before. Much that was suggested by observation of facts has been said in favor of monopoly, and Durand also mentions certain advantages of monopoly. But in accord with prevailing theory, he is a convinced defender of the principle of free competition, and the trust policy he recommends consists in prosecuting the trusts more vigorously than has been done in the past, and in assisting free competition again to a dominating position.

It appears to me, however, that not the least reference to economic theory is to be found in Professor Durand's argument. His "general reasoning" is nothing more than a generalization, a summing up, of earlier observations. A theoretical consideration of the trust problem, on the contrary, must seek to connect it with the fundamental principles of economic theory. As yet, that has been attempted only in a very modest way. As in a measure embodying such an attempt, I may refer to the first and third chapters of my work, which appeared seventeen years ago, *Die Unternehmerverbände*, and to R. T. Ely's *Monopolies and Trusts*.¹ Both works are now out of date. Corresponding to the incomplete state which at present characterizes all economic theory, it seems to me that there still exists a great want of clearness concerning the connection between monopoly and competition. Consequently, what has been said theoretically upon the question of trusts is very inadequate. I may, therefore, be permitted, in so far as is possible within the limits of this article, to indicate my view of monopoly and competition, and at the same time the theoretical basis for my attitude upon the trust problem. It will appear that the question as put by Durand, — either free

¹ On Ely's book see my reviews in *Conrad's Jahrbücher*, 1902, III series, vol. xxiii, and in *Weltwirtschaftliches Archiv*, vol. ii, 1913.

competition or monopoly, — is wrongly framed, that choice cannot be made between the two principles of organization; rather these inseparable principles always coöperate and react upon one another. When one wishes to frame the question as one of abstract theory, inquiring about the maximum satisfaction of wants, it can be proved that this is to be obtained only by means of monopoly.¹

As a preliminary, it must be stated that according to modern principles of science, economics has the character of a science only so long as it refrains from expressing judgments. These must always be based upon some ideal which is beyond the bounds of economic consideration; and upon this basis, no propositions of general application, such as science demands, are possible.

The goal of all industry and of all economic activity is the greatest possible satisfaction of the wants of all. This satisfaction of wants extends by no means only to the material goods which alone are usually considered by current theory, but to everything that man desires. And the essence of economics lies, consequently, not in our dependence upon external, natural objects, but in the fact that the varied needs, the sum of the desired utilities, are opposed to the costs which must be expended for them, and that the two are compared. The greatest possible utility at the smallest possible cost, in other words, the largest possible return, is the object of all industry (*Wirtschaft*). In this connection, utility and cost are not to be understood in the sense

¹ The following discussion supplements ideas upon the elements of economic theory which I have published in the work, *Ertrag und Einkommen auf der Grundlage einer rein subjectiven Wertlehre* (Jena, 1907), and in various articles, and which diverge considerably from prevailing opinion. The article upon "Die Entstehung des Preises aus subjectiven Werthschätzungen," in *Archiv für Sozialwissenschaft und Sozialpolitik*, 1912, and three articles in *Conrad's Jahrbücher*, — "Das Wesen der Wirtschaft," "Wirtschaft und Technik," and "Die ökonomische Produktivitätstheorie," — touch the same principles.

accepted by prevailing theory, which I term quantitative-materialistic, as a quantity of goods, but as consisting of sensations of pleasure and pain, and the yield is not a quantity of goods, but is purely psychical, a surplus of the former over the latter. It can hardly be over-emphasized that all fundamental economic concepts are valuation concepts, and that valuation in terms of money turns not upon the quantity of money, but upon the individual's valuation of that quantity. To bring about the largest possible return, *i. e.*, the largest possible surplus of pleasurable sensations, is the aim of all economic activity. Whether this object is attained, whether there is the most complete satisfaction of all wants, is a question which depends obviously upon the subjective estimates of the individuals regarding the goods offered. Upon that point no general theorems can be laid down, and hence strictly scientific, theoretical investigation seems to break down at the very first fundamental question, — when is complete satisfaction of wants present?

As I stated several years ago in my article upon the problem of productivity, and as has been conceded to me by the chief representative of those who would refrain in economic science from any formulation of judgments (*Werturteile*), Max Weber, it is still possible to frame a question which avoids reference to these inevitably subjective judgments. One must not inquire, as does prevailing theory, about the largest possible wealth of a people, *i. e.*, the largest possible quantity of goods, but one must ask, under what conditions, in what organization of exchange, can the greatest satisfaction of the wants of all be made possible? For this purpose it is not necessary to determine *wherein* the satisfaction of wants consists. One can investigate in a purely theoretical manner which organization of industry

brings about the best provision for satisfying wants. And it is by this method also that one can reach a correct conception of the nature of monopoly and competition.

The outcome of the economic theory which I have developed, — I cannot give it here in detail, — is as follows. For the economic dealings of each individual, as well as for exchange transactions as a whole, the same law applies, which I have called the Law of the Equalization of Marginal Returns. The decisive element is the surplus of utility over cost, — the return. As already said, this must not be understood to be a material quantity, a quantity of goods. Even when we consider the industrial entities operating for exchange, in which returns appear as sums of money, — in contrast with the returns derived in self-centered domestic industry (consumers' returns), — we should regard not the pecuniary sum but the evaluation of the money, which, it must be admitted, is in turn derived from the evaluation of the goods purchased. Now, for each economic person the greatest satisfaction of wants is obtained when he expends so much effort upon each satisfaction that the marginal returns, *i. e.*, the returns secured with the last unit of cost expended, are of the same size for the different satisfactions.

This law of the equalization of marginal returns applies in precisely the same way under developed conditions of exchange. Maximum satisfaction of the wants of all is attained when so much capital and labor flow to each branch of industry that, with due regard to the differences in risk, the marginal returns, the returns of the last and most expensive enterprises, in all branches are equal. Now it is not to be doubted that this condition will best be reached under the rule of free competition; and hence it is that the classical

economists, tho unacquainted with the modern accurate theoretical formulation, found in free competition the natural regulator of exchange transactions. All capital would then, under the influence of the all-animating pursuit of gain, turn to the industrial activity in which the strongest demand of consumers is still unsatisfied, and in which, therefore, the largest profit can still be realized. These needs will be so far satisfied, the supply of goods will be so adjusted, that the dearest sellers in all branches, whether they offer goods or services, still realize in the long run a certain minimum of profit. In this way the economic principle of the greatest conceivable provision for wants is fulfilled.

This theoretical premise seems at once to point to the unconditional superiority of competition as a principle of organization. But it serves only to clarify the actual relationship between competition and monopoly. One arrives in this question at a result quite different from the foregoing, if the line of thought is carried a step further. The conceivable maximum satisfaction of wants will be reached when, in each branch of industry, the cheapest sellers supply the total demand. To bring this about is, after all, the final aim of free competition. It enables new enterprises to be established as soon as some one believes that he can sell cheaper than at least a part of the sellers then in the market. But since as a rule, a single seller is the cheapest, or only a very few, who under competition secure differential gains, *i. e.*, enterpriser's profits, competition has the tendency, when pushed to its limit, to destroy itself and to be turned into monopoly. Since the cheapest seller can often lower costs by producing the whole supply, it follows that the maximum satisfaction of wants is obtained when there is only one seller, competition remaining latent in the background,

effective only when the seller does not employ the most efficient methods of production, or when as a monopolist he appropriates a profit much above the economic marginal return.

One might express it thus: economically speaking, free competition is that organization of business which effects the most complete provision for want; technically, however, the maximum is brought about by monopoly. This is the chief reason for the fact that competition, pushed to the extreme, becomes monopoly. The climax of competition is monopoly, and all competition is nothing but a striving for monopoly.

The much discussed question whether monopoly or competition is the most efficient form of organization, hitherto answered in favor of competition, is therefore, as we now see, improperly framed. Their mutual relationship is concealed when they are treated as absolute opposites. They are indeed antagonistic, yet, as may be asserted of all opposites, they not only conflict, but generate each the other. An organization of exchange based upon the principle of competition can nevertheless exhibit monopoly conditions. Monopoly and competition are special positions and strategic groupings of sellers and buyers in exchange and in price making, one of which shades imperceptibly into the other.¹

This relation between monopoly and competition, which previous writers failed to notice, is especially clear in the Kartells and trusts. They are undoubtedly monopolistic organizations; nevertheless, competition in its most general sense, and in the sense which concerns us here, is not eliminated. It appears in the Kartells and trusts as latent competition, always in the background,

¹ For further discussion of these views I refer to my article upon the development of price (*Entstehung des Preises*) in the *Archiv für Sozialwissenschaft*, 1911.

and will the more surely and the more vigorously break forth, the more monopoly manifests itself not merely as monopoly state or tendency, but with monopoly effect; the more it depends, not upon the mere fact that sellers have united, but upon the influence of this union upon price making. Otherwise expressed: the problem of monopoly and competition, in common with all other problems of economic theory, is not static, but typically dynamic, a fact which current theory for the most part still fails to perceive. Competition in this sense is then not merely the presence of several sellers in the market. One might define it as the possibility of the free movement of labor and capital. Competition, latent at least, is present as long as the appearance of a new seller in a branch of industry is not precluded. An impossibility for new sellers to compete, an absolute monopoly, is present only in those cases which rest upon the law, as with patents and the administrative monopolies of public bodies, and in those of natural monopoly due to the fact that the supply of certain goods and services cannot be increased. Yet the latter are in most cases only relative monopolies, because of the possibility of employing substitutes. A person who wishes to hear Caruso sing may not care to hear any other singer, when the price of admission to the former is too high; but he will satisfy his desire for music in another way. Even Caruso cannot fix the admission prices at will, if he desires the largest possible return, but must take into account that the higher his price, the more strongly other means to satisfy the love of music compete with him.

Thus nearly all monopolies are relative monopolies, and are the more destructive to themselves, the more they lead to actual monopoly effects, as expressed in prices. It is not monopoly that kills competition, but,

as was said by Proudhon in his *Contradictions économiques* seventy years ago, it is competition that kills competition. One does well, therefore, to distinguish between *free* competition, in the sense of freedom to enter any branch of industry, and the competitive *struggle*, the mutual underbidding, which has been regarded as the essential characteristic of the competitive system. The survival of the economically strongest in the competitive struggle puts an end to this, at any rate temporarily, and leads to monopoly, but at the same time gives a new impetus to free competition, so that the more an acquired monopoly position is exploited, the sooner the competitive struggle is renewed. Only in this sense is free competition the basic principle of our economic order; more accurately, it is not competition, but the pursuit of gain of the individual when free to develop, which organizes existing economic society, *i. e.*, the provision for all through the processes of exchange.

Hence only a peculiar combination of competition and monopoly brings about the greatest possible satisfaction of wants. Free competition, *i. e.*, the voluntary pursuit of gain, must decide, as it does now, just how much capital and labor is to flow to each branch of industry. But aside from the possibility of the appearance of new sellers, the maximum of satisfaction is effected, not by a multitude of sellers with varying costs of production, but only by the one with the lowest cost. This technical maximum, perfect monopoly of a single seller, would of course seldom be wholly realized, because in the present age of continued technical progress the position of the cheapest seller shifts very frequently. But the pursuit of gain (*Ertrag*), the dominant principle of economic activity, has the natural tendency toward monopoly, in which alone

this aim can fully work itself out. The individual is simply intermingled in his efforts with the similar efforts of other individuals.

The relation between competition and monopoly is, to sum up, approximately as follows. The fundamental principle of organization in exchange is neither the one nor the other; that principle is the pursuit of gain on the part of each individual economic entity. This pursuit leads to the most effective distribution of all capital and labor among the various branches of industry. For each individual the ultimate aim is the attainment of a monopoly position; but whenever, because of external conditions, several strive for this goal, competition and the competitive struggle result.

Consequently the most rational economic organization is doubtless monopoly in each industry, but so to speak upon the basis of competition, that is, upon the basis of unfettered pursuit of gain. The competitive struggle must remain latent in the background, to become effective as soon as the monopolistic seller begins to exploit his position. Monopoly and competition, in other words, exist side by side in what may be called a state of unstable equilibrium.

Now to bring about this state is the task of an economic policy on monopolistic organizations, such as the Kartells and trusts. It appears how misdirected is the American policy, when for instance it endeavors in every way merely to maintain the competitive struggle, and to suppress every effort toward monopoly, every larger concentration of enterprises. This is simply impossible of execution, because each competitive struggle is itself an endeavor to secure monopoly, and the more violent it is the more surely does it lead to monopoly. The monopoly of Kartells and trusts is therefore nothing more than the competitive

conflict pushed to its limit. A rational policy toward monopoly should endeavor to see to it that the two principles oppose each other with somewhat equal forces. On the one hand, it must endeavor to prevent individual enterprises from becoming too powerful, from approaching too closely to absolute monopoly, so as to render the rise of new competitors unduly difficult, — this is now above all the task of monopoly policy. On the other hand, it should not clumsily seek to prevent every attempt to monopolize, nor attempt to establish a state of continued competitive warfare. That is uneconomical, leads to continual upheaval, stimulates speculation, and after all is simply furthering the effort to monopolize. Not general competitive warfare, but monopoly held within bounds by the free operation of the pursuit of gain, is the best organization of industry.

If we consider more closely, from this point of view, the relation between monopoly and competition under present economic conditions, we perceive that the general tendency toward monopoly frequently attains its object, and that the competitive conflict is done away with, merely leaving free competition in latent form in the background. Many a time we observe that exploitation of monopoly position leads to resumption of the competitive struggle. The practicability of making competition effective so as to be available at the right time, is, as I have said, of the greatest importance. So to regulate it that there is not too much or too little of it, in other words, to attain the correct mixture of monopoly and competition, — here is the essence of a government policy on monopoly. Let me state in a few words what aspects of this policy should be borne in mind.

Obviously in contemporary industry the forces restricting and facilitating competition are operative side by side. All such phenomena receive their true elucidation

tion from the standpoint from which we have considered them. In the main the effectiveness of free competition is enormously facilitated by modern economic development, and precisely upon this account the Kartells and Trusts have come to pass, as the climax of the competitive conflict. The greater volume of wealth itself facilitates new competition, still more the greater mobility of capital, resulting from the development of credit and securities, by which vast sums are put readily at the disposal of the most remunerative employment. Besides, technical factors, such as the immense improvements in transportation, which extend the circle of competing sellers and render more difficult the formation of local monopoly, make easier the rise of new competitors. The continued improvements in all branches of production render insecure the position even of the monopolist who does not exploit his position, and gives a special impetus to new enterprises in any branch not subject to monopoly.

The consequence of this development was that it was too easy to compete, there was too much competitive conflict. The opinion of the free trade school, that there can never be too much competition, has meanwhile not only been refuted by experience, which demonstrated that the competitive struggle led finally to monopoly, but can also be disproved by economic theory. I have attempted to explain this in the articles already referred to.¹ Briefly, the conclusion is the following. There is no doubt that the adoption of cheaper methods of production is under all circumstances profitable to private individuals, and that continued technical advance may therefore lead to a situation in which much more capital flows to some branch of industry than the extent of demand warrants.

¹ The article upon productivity in Conrad's *Jahrbücher*, and that upon the theory of saving and the creation of capital in Schmoller's *Jahrbuch*, 1912.

The capital already invested cannot simply disappear and be written off the economic balance sheet; it must be amortized. Thus the adoption of each technical improvement may not be under all circumstances rational, but may result in excessive outlay of capital, which of course must restrict consumption at some other point. In other words, the proper relation between capital formation and consumption, which theory can formulate sharply, — again through the law of the equalization of marginal returns, — and which finds also in practice its realization in the rough equalization of returns in the various forms of enterprise, can be disturbed by continued technical improvements, the adoption of which is profitable to private individuals and consequently leads to the continued establishment of new enterprises. It creates an *overcapitalization*; not in the sense in which one commonly uses this term in connection with the trusts, but in the sense that more capital is directed to one or another branch of industry than the increase of demand and the normal amortization warrant. Actual money income is thus converted into capital goods and into an excess of capital goods; whereas in the creation of fictitious capital on the part of many of the trusts, money merely passes from one pocket to another, and no real creation of capital, no creation of capital goods, takes place at all.

This overcapitalization, which threatens wherever numerous important technical changes are carried out under the régime of free competition, is the ultimate and most general cause of economic crises. To prevent them has been one of the chief motives for the creation of monopolies. The whole movement toward concentration, especially the rise of Kartells and trusts, is in the last analysis to be traced to this fault of construction in an industrial organization based upon competition, to the

incompatibility between the individual's desire for gain and that apportionment of real capital which is most advantageous for society. The whole existing tendency toward monopoly is nothing else than a means of self-help used by the economic organism to check the growth of the anarchic state of production under the régime of competition, in other words, the uneconomic character of continually impending overcapitalization appearing as a consequence of technical advances under the influence of private pursuit of gain. Likewise the concentration of money and credit is to be classed among the phenomena which represent self-defense by the economic body against the unchecked operation of competition and the attendant danger of attracting an excess of capital.

At this point, one may perhaps object that such overcapitalization occurs not only under free competition but also under present monopolistic organizations. That is quite true. For instance, in the German potash industry, the potash syndicate supported by the government has caused the erection of new plants to be greater and production to exceed demand to a much wider extent than can be pointed out in any other industry. In the mining industries also the establishment of new enterprises and the expansion of old ones has proceeded more rapidly under the influence of Kartells than would probably have been the case under different circumstances. This simply indicates that one must not conceive of monopoly and competition as absolute opposites, and must not characterize the Kartells and trusts as really monopolistic organizations. They are not absolute monopolies, but only the results of the tendency toward monopoly, *i. e.*, of the competitive conflict. In particular, the Kartell is merely an organization with a monopolistic purpose; but even this purpose is only monopolistic to a limited extent, since

in the majority of cases it is restricted to price making. It does not extend to the creation of capital, which is quite as important economically; the establishment of new enterprises still takes place under conditions of competition, not of monopoly. Competition, in the above sense of the free mobility of capital and labor, is not eliminated in the Kartells and trusts, but remains latent, and becomes the more effective the nearer the competitive conflict reaches its culmination and actual monopoly is approached. The shifting relationship, the inseparable connection, which exists characteristically between monopoly and competition, appears in these organizations, which are monopolistic in tendency but are not rightly to be entitled "monopolistic organizations." They are at once instruments to restrict competition and render it difficult, and at the same time to encourage it and give it a new impulse. Competition leads to monopoly, monopoly leads to competition; so to speak, the law of the conservation of energy is transferred to the sphere of economics. Monopoly and competition are only two manifestations of the one force which sets the economic mechanism in motion, namely, the pursuit of gain on the part of all economic subjects. If this force leads to monopoly, it produces automatically its remedy, the competitive conflict. If this later form of energy is too much developed, it has within itself the tendency to turn to the opposite, monopoly. Only a state of equilibrium between the two forms of economic energy will result in the most advantageous organization of economic activity. Such is the foundation which economic theory can give to a modern policy on monopoly.

Since the above was written, copies have reached me of the American trust acts of September 26th and

October 15th. After what I have said, it need not be repeated that the principle underlying them, namely, that free competition is to be kept in effect under all circumstances, seems to me not only theoretically unsound, but in practice impossible of execution. In view of the enormous variety of the possible combinations of monopoly and competition, it will not be feasible, even after an indefinite number of judicial decisions, to lay down any general principle by which to decide when there is "substantially lessened competition" or when it is to be assumed that there is an attempt to "create a monopoly." The decisions must necessarily be arbitrary. In consequence, even tho a number of monopolistic organizations may be suppressed, others equally harmful will be left unaffected. The provision contained in Section 4 of the Anti-Trust Act of October 15th, by which every person "injured" by monopolistic action is entitled to sue for damages, may lead to great uncertainty as regards the outcome of contracts, and may lead also to a great over-burdening of the courts.

Certain provisions in Sections 8 to 10 of this act, which are designed to check financial abuses on the part of great corporations, quite apart from any monopolistic tendencies, are entitled to more favorable judgment. On principle they are to be commended. Nevertheless, in this regard also it seems to me doubtful whether a general and effective execution of the law is possible without a steady supervision and stringent control of the numberless enterprises, such as the American state, with its inadequate staff of trained officials, would seem as yet not able to carry out. The Federal Trade Commission is given tasks which may rise to such dimensions that all cannot possibly be attended to. Hence I must confess to an impression that these new enactments serve more to indicate the wish of the Administration

to do something, than give promise of bringing into practical effect the principles on which they rest.

This impression is confirmed by another circumstance. The Administration has failed to turn to a weapon for combating the trusts which I regard as the most important of all, and which has been used to a much greater extent in German legislation on stock companies, — that, namely, of bringing public opinion to bear on the regulation of large corporations. The means are more stringent regulations concerning the make-up and the publication of balance sheets, especially as regards the ownership of securities, and requirements for the publication of detailed reports and prospectuses on the launching of new enterprises. Further may be mentioned the supervision of accounts and of administration by publicly authorized auditors; strict liability of directors, promoters, and financial agents for everything connected with the flotation of securities; and finally the creation of an independent financial periodical press. I should suppose that, in a democratic country above all, some such means of utilizing public opinion as a remedial agent would be peculiarly adapted for combating the abuses of the trusts.

ROBERT LIEFMANN.

UNIVERSITY OF FREIBURG I. B.

WAGES BOARDS IN AUSTRALIA: II. BOARDS OUTSIDE VICTORIA. III. ORGANIZATION AND PROCEDURE

SUMMARY

II. Boards outside Victoria. 1. South Australia, 326. — 2. Queensland, 332. — 3. New South Wales, 334. — 4. Tasmania, 337. — III. Organization and Procedure. 1. Organization and Appointment, 339. — Grouping of trades, multiplication of boards, 341. — Number of members, 341. — Women, 342. — Chairmen, 343. — "Award" or "determination," 344. — Court of Industrial Appeals in Victoria; of Industrial Arbitration elsewhere, 346. — 2. Wages Boards at work, 347. — Importance of chairman, 350. — Real or apparent waste of time, 353. — Informal proceedings, 355. — Absence of any guiding principle, 356. — Cost of living a conspicuous factor, 357. — In Victoria, true examples of collective bargaining; elsewhere, less so, 360.

II. BOARDS OUTSIDE VICTORIA

1. *South Australia.* The reports of sweating and the agitation for its abolition in Victoria seem to have caused some searching of hearts in other parts of Australia and a desire to learn whether the conditions prevailing in Melbourne were similar to those in the capitals of the other colonies.

South Australia was the first state (after Victoria) to begin an inquiry into the conditions of factory employees and the home workers. A shops and factories commission, of which Mr. C. G. Kingston, "the father of compulsory arbitration," and Mr. McPherson, the founder of the labor party in Australia, were members, made its report in 1892, and this led the way to the passage of the first Factories Act in South Australia in 1894.¹ Mr. John Bannigan was appointed factory

¹ Aves, Report on the Wages Boards, etc., p. 77.

inspector in 1896, and has continued to serve in that capacity ever since. A woman inspector, Mrs. Agnes A. Milne, was also appointed the same year.

The reports made by these inspectors from 1896 to 1900 showed that a considerable amount of sweating existed in Adelaide, especially in the clothing trades. Women were found making men's shirts at 2s. (47 cents) per dozen, aprons at 1s. (24 cents) per dozen, and children's pinafores, "tucked and frilled," at 1s. 6d. (36½ cents) per dozen, and even at these prices were obliged to provide their own sewing thread.¹ Other prices paid were 2s. (47 cents) apiece for men's coats, 1s. (24 cents) per pair for trousers and 1s. (24 cents) for vests. One woman, a skilled worker, was found who made women's blouses with four different shaped collars for 3s. (73 cents) per dozen, children's knicker drawers at 1s. 4d. (32 cents) per dozen, and ladies slip bodices at from 4s. (97 cents) to 5s. 6d. (\$1.33) per dozen. Many of these goods were sold by Syrian, Afghan and Chinese hawkers.² There were the same abuses in connection with the employment of apprentices as had been found in Victoria, and when business was slack these low paid apprentices were employed in preference to the ordinary piece workers.³

One of the consequences of such low rates, referred to by Mr. Bannigan in his report for 1899, was that firms in other states which had more advanced factory legislation were shipping their goods to Adelaide to be made up at the low rates prevailing there, and then re-shipping them to Sydney or Melbourne.⁴ At this time, there were, according to Mr. Bannigan, about 71 men and 374 women engaged as home workers in and

¹ Report of Chief Inspector of Factories for 1896, p. 4.

² Ibid., 1897, pp. 3-4.

³ Ibid., 1898, p. 5.

⁴ Ibid., 1899, p. 5.

around Adelaide. Of these, 215 women worked at dress-making, 17 men and 69 women at tailoring, one man and 81 women at the manufacture of shirts and underclothing, and 53 men and women at boot-making. Mr. Bannigan admitted, however, that there were probably many home workers whose names and places of abode were unknown to the inspectors.¹

Partly as a result of these reports and partly through the influence of the Victorian legislation, parliament amended the Factories Act in 1900 so as to provide for the registration of out-workers, established a minimum wage of 4s. (97 cents) for factory workers and authorized the establishment of wages boards to determine the lowest price or rate of pay for workers inside or outside factories "employed in the manufacture of clothing including white work, boots and shoes, furniture and bread and such other manufacture, trade or business as may be from time to time fixed and determined by resolution of Parliament." The act followed the Victorian statute in its provision for the election of members of the board, the granting of licenses to aged and infirm workers to work at special rates and in the penalties provided for violation of the statute. The act was to go into effect as soon as regulations for carrying out the objects of the act had been submitted to Parliament and had been accepted by that body. The Minister of Industry proceeded to draw up these regulations, but when they were submitted to Parliament in 1901, they were not accepted; hence the provisions of the 1900 act which dealt with wages boards remained inoperative.² The system of registration of the out-workers went into effect and seems to have resulted in some falling off from the number reported in 1899.³

¹ Report of the Chief Inspector of Factories for 1899, p. 6.

² *Ibid.*, 1901, pp. 1-2.

³ *Ibid.*, p. 3.

A strong anti-sweating league was formed and a special report on sweating was issued by the factories inspectors in 1903 which showed that conditions differed from those reported in 1899 only to the extent that in some lines the rates paid were only about half of those paid the earlier year.¹ Manufacturers interviewed by the chief inspector, for the most part, expressed opinions favorable to the regulation of wages by means of wages boards.² Parliament, nevertheless, showed its prejudice against the wages board system by continued refusal to pass the regulations necessary to put in force the provisions of the act of 1900 relating to wages boards and a minimum wage. In the latter half of 1904, however, a select committee appointed by the Legislative Council to inquire into the alleged sweating evil took evidence in Adelaide and Melbourne, and shortly thereafter Parliament enacted a short act embodying certain provisions of the Factories Act of 1900 including the necessary regulations, yet restricted the scope of the act to the clothing and white work trades and limited its application to females and to males under the age of twenty-one.³ Two boards, the clothing board and the shirt-making and white work board, were appointed in 1905, and the clothing board reached a determination which became operative on December 1 of that year. Owing to flaws in the act, however, it was found impossible to enforce the determination, which was finally declared invalid in the police court.⁴ The shirt-making and white work board reached a determination early in 1906, but difficulties were encountered in the efforts to restrict the number of appren-

¹ *Reports of Inspectors of Factories Re Sweating System in the Clothing Trade* (1903), p. 2.

² *Ibid.*, p. 1.

³ *Report of Chief Inspector of Factories for 1904*, p. 1.

⁴ *Ibid.*, 1905, p. 1.

tices or improvers allowed by the determination. Attempts were made during 1905 and 1906 to secure a board for the dress-making and millinery trades, but delay was encountered in securing candidates for election. A board was finally constituted, however, and reached a determination which became operative on October 1, 1906. Very little was accomplished by any of these boards however, since the police court's decision in the matter of the clothing board's determination was upheld on appeal to the supreme court,¹ and this had the effect of paralyzing the determinations of the other two boards, as these determinations contained the same flaws found by the court in the determination of the clothing board. To the credit of the manufacturers, however, it must be said that most of them remained loyal to the determinations and continued to pay the rates of wages fixed by the boards.²

Wages boards along Victorian lines were finally provided by parliamentary legislation in 1906. Boards were provided for eight trades — bread-making, the boot trade, brick making, butchering, dress-making, carriers and drivers, furniture making, and shirt-making and white work. The new act also made provision for boards in other trades whenever this was authorized by resolution of Parliament. Boards were immediately provided under this act for the eight trades above-mentioned and they speedily reached determinations which came into effect in September, 1906.³ In addition to the above-mentioned boards, the clothing board was revived, but another defect was discovered in the act which had the effect of annulling the provisions relating to its appointment.⁴

¹ Report of Chief Inspector of Factories, 1906, p. 1.

² *Ibid.*, 1906, p. 1.

³ *Ibid.*, pp. 1-2.

⁴ *Ibid.*, 1906, pp. 1-2.

The troubles in connection with the establishment of the wages boards were not yet over. In 1907, the various factory acts in South Australia were consolidated in the Factories Act of 1907, which came into operation January 9, 1908. This act swept away all previous wages boards regulations and new regulations had to be framed. They were immediately challenged in the Supreme Court and altho upheld were once more challenged in Parliament and were finally withdrawn. Another set of regulations was substituted for them on September 30, 1908.¹ Not until this year, therefore, can it be said that the wages board system had been placed in successful operation in South Australia. In addition to the parliamentary delays in South Australia, boards have had to encounter the constant interference of the courts. The reasons for this interference have been largely faulty determinations on the part of the boards. By 1909, however, the system was working fairly smoothly. The majority of employers had accepted the wage legislation in good faith and were complying with the boards' determinations. It cannot be said, however, that the wages board legislation has ever been as popular or successful in South Australia as it has been in Victoria.

By the end of 1912, 57 wages boards were in existence, affecting about 25,000 employees. Many of the boards were found in occupations not carried on in factories.² During this year the South Australian Parliament enacted a compulsory arbitration law, based, so it was claimed, largely on the New Zealand act,³ but which in its essential features bears closer resemblance

¹ Report of Chief Inspector of Factories for 1907-08, pp. 1-2.

² Ibid., 1912, p. 2.

³ Speech by Honorable J. P. Wilson, Minister of Agriculture, November 8, 1911, on Second Reading of the bill.

to the New South Wales acts of 1908 and 1912. This act has not done away with the wages boards; but it has subordinated them to the arbitration court which takes the place of the court of industrial appeals but possesses much greater powers. The Governor in Council, however, continues to appoint, either with or without an election, the members of the boards. Inasmuch as the judicial system of wage regulation is essentially different from the conciliation method by wages boards, this act may be said to mark the close of the simpler system of wage regulation. Further account of South Australia's experience properly falls under the head of compulsory arbitration.

2. *Queensland.* In Queensland there was no factory legislation until 1896, and no laws for the regulation of wages until 1908, when a wages board bill, framed according to the Victorian model, was adopted. As in the other colonies, the primary cause of this legislation was the desire to put an end to sweating. Coupled with this there was the feeling that the time had come for the establishment of some legal method for the adjustment of wages conditions.¹ Altho the state is one in which agriculture and pastoral pursuits predominate, the labor party has a strong following in Brisbane and other industrial centers, and its influence has naturally made itself felt in the agitation for the regulation of wages.

Altho following in the main Victorian lines, the Queensland act of 1908 had several features which distinguished it from the laws in other states. Boards might be appointed by the Governor in Council, without a special resolution by Parliament. Another point of difference was that any board might be appointed either with jurisdiction throughout the state or with

¹ Aves, *Report on Wages Boards, etc.*, pp. 82-85.

jurisdiction limited to any special locality. This power to appoint boards for certain specified localities is very important in Queensland, which in some respects more nearly represents industrial conditions as they are found in other countries than do the other Australian states. In New South Wales, Sydney as an industrial center dominates the entire state; aside from the coal-mining center in Newcastle it is almost the only important center for manufacturing and mercantile industries. In a similar way, Melbourne controls the industrial situation in Victoria, Adelaide in South Australia, and Perth-Fremantle in West Australia. In Queensland, however, Brisbane, altho the capital city, is only one of four or five industrial centers. Some of these towns are separated by hundreds of miles from Brisbane and have no railroad connections with the capital or with each other. They are thus non-competing industrial centers and a scale of wages which might be suitable for one city would be entirely unsuited to another. Queensland was, therefore, divided for wage board purposes into five divisions, namely: Brisbane division, south-eastern division, southern division, central division and northern division. Boards were also established for many trades and industries in the country districts for which similar boards had been established in the metropolitan area.¹

As Queensland has a tropic and sub-tropic climate, industries carried on in factories are less numerous than in the southern states, and as a result, the wages boards in Queensland are found to a larger extent in industries not carried on in factories. There were, according to the report of the Director of Labor and Chief Inspector of Factories on June 30, 1912,² seventy-one boards, of

¹ Report of the Director of Labour and Chief Inspector of Factories and Shops, 1910, p. 18.

² P. 23.

which thirty had been constituted during the preceding twelve months. The employees affected numbered more than 30,000. This large number of boards appointed within a period of four years seemed to show that the wages board system had proved popular in Queensland, and further evidence that this was true was shown by the fact that not less than twelve of these boards had been appointed on requests made by employers.¹ Mr. McGee, the Chief Inspector, said in his annual report for 1912, that the results of the wages board legislation "have been eminently satisfactory," and that this opinion was shared by both employers and employees.²

Early in 1912, however, a general strike, originated by tramway employees and fostered by the agitation of the syndicalists, paralyzed for a time the industries and trade of Brisbane. Altho the strike failed, it seems to have awakened a desire for compulsory arbitration and the Industrial Peace Act passed in the same year introduced the compulsory arbitration system into Queensland; and the wages boards are now subordinated to the Arbitration Court.³

3. *New South Wales.* New South Wales, altho the most populous of the Australian states and containing the largest city, had no legal regulation of factory conditions worthy the name until 1896. Sydney as an industrial center was for years less important than Melbourne, owing its importance largely to its commerce. Since the federation of the colonies, however, industries have grown rapidly in Sydney, until it has surpassed Melbourne both in the number of factories and of factory operatives. On the whole, the factory legisla-

¹ Report of Director of Labour, etc., 1912, Appendix C.

² *Ibid.*, p. 24.

³ Official Year Book of the Commonwealth of Australia, 1901-1912, pp. 1038-1041.

tion of New South Wales has, at least until lately, not been equal to that of Victoria, nor have the laws been as well administered, owing to the fact that the number of inspectors has been far short of that necessary to secure adequate inspection. There are not so many women employed in Sydney factories as in Melbourne,¹ and this may be a partial explanation of the delay in providing better factory legislation and administration.

The first act which provided any adequate system of wages regulation was the Industrial Arbitration Act in 1901, whose author was the Honorable Bernard R. Wise. It proved very defective and throughout its life, which was limited to June 30, 1908, had to encounter the opposition of a hostile government, which would neither repeal the act, nor amend it in such a way as to correct the defects which had become apparent. In 1908, when the act was about to expire, the then Premier and Attorney General, Mr. C. G. Wade, brought in a bill for the establishment of a system of wages boards. The bill provided, however, that the arbitration court was to be retained as a court of appeal. The boards were not limited, as they are in Victoria, to questions of wages, hours and apprentices, but were given the power to consider any subject of dispute which might arise between employers and employees. The bill also continued the prohibition against strikes and lock-outs. Altho the wages boards have outwardly the appearance of being much the same as the boards in other states, they are in reality quite different. Instead of conciliation being the dominant feature in the board meetings, the boards have spent most of their time in taking evidence and reaching conclusions based on this evidence. They are in reality, therefore, petty courts.

Under the 1908 act, the members of the boards were appointed upon the recommendation of the industrial

¹ Aves, *Report on Wages Boards, etc.*, pp. 110-111.

court and unless they could agree upon a chairman he also was nominated by the industrial court. He might be in some cases a supreme court or district court judge or even the judge of the industrial court himself. In other cases he was likely to be a member of the legal profession. Unless the board were presided over by a judge, an appeal might be taken from the decision of the board to the industrial court within one month after the publication of the board's award. This close connection between the work of the boards and of the industrial court has had the result of giving a judicial character to the work of the boards. It was apparently thought by Mr. Wade and by many of his followers that the 1908 act would result in the establishment of something very similar to the Victorian wage board system in New South Wales. But this has not proved to be the case. Mr. Justice Heydon of the New South Wales Arbitration Court, has recently said that the Victorian wages boards are not like "ours in New South Wales which are only called 'wage boards' from habit, and under our act are 'industrial boards' or 'boards,' and can deal with all subjects."¹ Perhaps the results of the two systems, as shown by the awards made by the wages boards in Victoria, and the boards and the courts in New South Wales are not greatly different. Indeed, they could not greatly differ in neighboring colonies having industries in close competition with each other. None the less, the important point to be noted is that the Victorian system is one which is based on the idea of conciliation, while in New South Wales there is the idea of judicial determination. The New South Wales system of wages regulation should, therefore, be studied under the head of compulsory arbitration. Between July, 1908 and April, 1912, 213 boards had been con-

¹ *Inquiry Re Cost of Living and Living Wage*. Judgment of Mr. Justice Heydon, 16th February, 1914 (Sydney, 1914), p. 6.

stituted in New South Wales, and these boards had made a total of 430 awards.¹

A new arbitration act was passed by the New South Wales Parliament in April, 1912. It continued the system of wages boards under the control of the arbitration court, but undertook to reduce the number of boards and to bring about a unity in the awards in closely related industries. In all the states, but especially in New South Wales, there has been more or less confusion caused by the overlapping of awards and the consequent uncertainty as to what are the obligations of employers. Accordingly, the 1912 act undertook to group the industries in respect to which boards might be constituted and provided that all the boards in the same group should have one and the same chairman appointed by the Minister on recommendation of the Court.² This plan has not been entirely successful, but by August, 1912, it had resulted in reducing the number of boards to 135 as against 213 under the old system.³

4. *Tasmania.* The last of the Australian states to adopt legislation regulating wages was Tasmania. There are no large cities on the island, and only two, Hobart and Launceston, are of even secondary importance. Accordingly, the only industries of importance are agriculture, horticulture, sheep-raising, mining and forestry. The population is small and the island government can not afford the luxury of many officials.

In 1910, the Tasmanian Parliament enacted a wages board act framed on the Victorian model. The act provides for boards for the manufacture of clothing and wearing apparel (including boots and shoes), and "for

¹ New South Wales Industrial Gazette, August, 1912, p. 1052.

² Explanation by Mr. Beeby, author of the 1912 Act in Final Report of the Royal Commission of Inquiry on Industrial Arbitration in the State of New South Wales (hereafter referred to as the Piddington Report), pp. 150 ff.

³ New South Wales Industrial Gazette, August, 1912, pp. 1050-1051.

any other trade or group or parts in respect whereof both houses of Parliament pass a resolution providing such appointment."¹ Under the terms of the act, Parliament in 1911-12, provided boards for 19 trades in addition to the clothing and the boot boards. Most of these boards were for industries not carried on in factories, and it is interesting to note among the list of boards one for the pastoral industry and another known as the "threshing machine board."² Tasmania is, therefore, the first state, if I mistake not, to provide wages boards for semi-agricultural callings.

No court of appeals is provided in the Tasmanian act, and any determination of a board can be challenged only in the Supreme Court and then only on grounds of illegality. The Minister, however, has power to suspend the determination and the board reconsiders the matter and either affirms its former determination or amends it.

As originally passed, the Tasmanian act provided that "every wage board shall ascertain the average prices or rates of payment (whether piece-work prices or rates, or wages prices or rates) paid by reputable employers to employees of average capacity" and the lowest prices or rates fixed by the board should not exceed these average prices or rates. As in Victoria, however, this "reputable employers" clause proved very objectionable to the employees. Attempts to form a board in the clothing trade in 1911 failed because the employees in this trade would not allow their names to be submitted for nomination as members of the board as long as this objectionable clause was retained.³ Accordingly, Parliament repealed the "reputable employers" clause in September, 1911.

¹ An Act to make provision for Wages Boards, 1910.

² First Annual Report of the Chief Inspector of Factories, 1911-12, p. 15.

³ *Ibid.*, p. 15.

One respect in which the Tasmanian act departs from the Victorian precedent and follows the South Australian act of 1908 is that it forbids strikes and lock-outs in respect to matters in which a board determination exists, and provides penalties in the shape of fines for individuals and organizations found to be violating this prohibition. Altho Tasmania's brief experience with wages boards, according to the report of the Chief Inspector of Factories, has so far proved fairly satisfactory, the act was not in 1911 and 1912 as well observed in this state as in the other Australian states. This was due primarily to the insufficiency of inspectors and to the fact that many of the workers were in country districts and the terms of their employment could not be so closely supervised as could those of city laborers.¹

III. THE ORGANIZATION AND MODES OF PROCEDURE OF WAGES BOARDS

1. *Organization of Boards and Appointment of Members*

In describing the organization and methods of operation of wages boards in Australia, the procedure in the State of Victoria will be chiefly held in mind, but wherever important deviations from the Victorian model have been made, they will be indicated.²

The first step toward securing the appointment of a special board for any trade is to have a resolution authorizing its appointment passed by both houses of

¹ See First Annual Report of Chief Inspector of Factories, 1911-1912, pp. 3-25.

² A summary statement of the "Mode of Constituting Special Boards and of Appointing Members" is found in the Reports of the Chief Inspector of Factories for Victoria from 1906 to 1911, inclusive. An excellent statement of the mode of procedure in Tasmania is contained in the First Annual Report of the Inspector of Factories in that State for 1911-12, pp. 15-25.

Parliament. The Minister of Labor, who administers the act, usually moves the resolution in the House, but he does so because urged by either employers or employees or by both. In Queensland under its new act, and in New South Wales since 1908, the boards are appointed by the Court of Industrial Arbitration or on its recommendation. In South Australia, the boards are now appointed by the Governor in Council upon recommendation of the Minister, but without any resolution by Parliament.

The reasons chiefly alleged by employers who apply for a board are "unfair competition." This, says the Tasmanian report for 1911-12,¹ is especially true in the building trades. Where the work is let by contract, the establishment of wages boards prevents undercutting in making estimates and places those submitting offers on fairly equal terms. The employees who ask for a board usually base their demand on the wages paid, altho, especially within recent years, the employment of excessive juvenile labor is an important reason urged.

When a resolution has once been passed through Parliament, the Minister or the Court is given full power to group the trades or to divide them so as best to serve the purposes of employers and employees. The tendency, when unrestricted, is to divide and sub-divide the trades and thus to multiply the number of boards. This has caused great confusion, in some instances, and has led to great dissatisfaction on the part of employers, many of whom have found themselves under the jurisdiction of several or even many boards. Both employers and employees have been put to great expense and loss of time in attending board meetings. To minimize this evil, efforts have been made under the

¹ P. 15.

New South Wales act to limit the number of awards by grouping allied industries and providing that the same chairman shall act for all boards created within a single group. The chairmen of the boards are appointed by the Minister on the recommendation of the judge of the Arbitration Court, but the act itself established twenty-eight groups of industries in respect to which boards might be constituted. It was expected that this mode of grouping would cause a great reduction in the number of boards, there being 213 boards in existence at the time the act was passed. The twenty-eight chairmen it was thought would see to it that the determinations of all the boards within any group were consistent and that they did not overlap. In practice, this expectation has not been realized, and the grouping has not diminished the number of boards as much as was expected. The judges have found the task of grouping a very difficult one, and where there is disagreement between the parties as to the trade to which they belong, the court has found it the easiest way out of the difficulty to create additional boards. The author of the act, Mr. George S. Beeby, frankly admits that the new act has not succeeded as well as he expected.¹

The order of the Minister or Court which constitutes a wages board also fixes the number of members on the board, of course within the statutory limits. In addition to the chairman there may not be less than four, nor more than ten members on any board in Victoria, South Australia and Tasmania. In Queensland, the maximum number is 12, besides the chairman. In New South Wales, the number is either two or four in addition to the chairman. The representation of employers and employees is, of course, equally divided.

¹ Piddington Report, Minutes of Proceedings, pp. 149 ff.

Where the Court does not take the initiative, the Minister invites in the daily press nominations for the required number of representatives of employers and employees. Frequently only the exact number necessary to constitute a board is suggested, since if both employees and employers are organized the organizations will usually nominate the persons whom they desire as representatives, and unless there are serious objections, these persons will receive appointment. In Victoria, if the industry is carried on to a considerable extent in other cities than Melbourne, there is likely to be at least one representative for employers and one for employees from outside the metropolitan area. The same is true in Adelaide. It is becoming more and more the custom, however, to have one board for the country districts and another for the metropolitan area. Tasmania undertook to see that equal representation was given to the northern and southern portions of the state or to special portions of the state where particular industries are established. Queensland, as we have already noted, usually provides special boards in the various districts into which the state is divided.

Women as well as men may sit on these boards and frequently they do so in occupations in which there are many women employees. On certain boards in Victoria all of the employees' representatives are females. The New South Wales act provides that where the employers or employees in the industry or calling consist largely of females, members may be appointed who are not engaged in the industry or calling. This provision is due to the feeling that women either lack the power of collective bargaining or are in danger of intimidation by the employers' representatives.

In Victoria and Tasmania, if more than the requisite number of persons are nominated, the Minister makes

selection from the nominees and publishes the list of persons whom he nominates in the Government Gazette. Unless objection is made to such persons within twenty-one days by at least one-fifth of the employers or employees in the trade, these persons are appointed members of the board by the Governor in Council. If one-fifth of the employers or employees object to the persons nominated to represent them, an election is held to select representatives. In Victoria the objection must be to all the nominations, not to individuals. In Tasmania it is sufficient to object to individuals. Elections are then held in accordance with rules and regulations which give every registered employee one vote and which give to employers one vote or more according to the number of their employees.

In nearly all states having wages boards, the elected or appointed members have the right to choose their own chairman, who must not be of their own number; and this man is then appointed by the Governor in Council. In New South Wales, however, the chairmen are appointed by the Minister on recommendation of the Court, and under the 1912 act the same man serves as chairman for a number of boards in a group of closely related industries. These groups are determined by a schedule which accompanies the acts, or by modifications of this arrangement made by the Court. There are twenty-eight groups provided by the schedule, and the twenty-eight chairmen have usually about eight boards each. In the states where the boards have power to elect their own chairman, if a board is unable to agree upon a man, he is appointed by the Governor on recommendation of the Minister. In South Australia he is appointed by a Stipendiary Magistrate. Vacancies are in all cases filled by the same appointing authority which constitutes the original board.

The chairman is a member of the board, but his function is usually confined to conducting the proceedings. He does not vote on any question except in cases where the board is equally divided, when his vote decides the question at issue. The New South Wales act of 1912 says that "where the votes for and against any matter are equal, the chairman shall decide the question but shall not give such decision unless satisfied that the question could not be otherwise determined" and this represents the practice, if not the law, in all states.

The times of meeting and the modes of carrying on the business are determined for the most part by the board. A brief record of the proceedings which gives the votes on the most important questions is kept by the secretary, who in Victoria is almost always a clerk in the Chief Inspector's office, and whose familiarity with the administrative work of the department enables him to make suggestions as to the form of the determination which shall make it the most easily enforceable.

All special boards have large powers with regard to the summoning of witnesses and the taking of testimony. The extent to which this is done and the extent of the reliance placed on the testimony by the board when it comes to determine the question at issue, is one of the chief differences between the boards in the states which have only wages boards and those states which have arbitration courts in addition.

In all states except New South Wales, where it is known as an "award," the result of a board's labors is known as a "determination." Such an award or determination applies to all employers and employees in the trade in the entire state or is limited to those found within a particular area to which the determination is restricted. A determination in Victoria or Tasmania has to do only with (1) the minimum wage

for both time and piece workers, (2) the maximum number of hours of labor, (3) payment for over-time, (4) the number or proportion of improvers or apprentices. This was also true in South Australia and Queensland until the passage of the acts of 1912. In New South Wales, the boards have in addition to the above powers the authority to "determine any industrial matter" and to give preference to unionists. The term "industrial matters" is a very broad one and includes all "matters or things affecting or relating to work done or to be done, or the privileges, rights or duties of employers or employees in any industry."¹ A board's powers are therefore similar to those possessed by the Court of Arbitration in the same state.

When a determination is made, it is sent to the Minister through the chief inspector of factories. In New South Wales, however, it goes to the registrar of the arbitration court. The board fixes a date on which the determination should come into force, but this date must not be within thirty days of the final action by the board.

If the determination is in the regular form, the Minister has it "gazetted," thus putting it into force. It remains in force in some states for a period not to exceed three years. In Victoria, it is in force until it is amended or rescinded, whether by the board or by the Court of Industrial Appeals. Practically, this is the situation everywhere, for the Governor in Council may at any time suspend the operation of a determination for a period not to exceed six months. The board is then again convened to consider whether or not the determination shall be amended. If no alteration is made, the suspension may be removed after due notice is given.

¹ Language of the New South Wales Act of 1912, Section 5.

An appeal from a board's determination may be taken to the Court of Industrial Appeals in Victoria. This appeal may be lodged (1) by a majority of the representatives of the employers on the board; (2) by a majority of the representatives of the employees on the board; (3) by any employer or group of employers who employ not less than 25 per cent of the total number of workers in the trade to be affected, or (4) by 25 per cent of the workers in any trade.

This Court of Industrial Appeals consists of any one of the judges of the Supreme Court sitting alone. The judges arrange which of them shall for the time being constitute the court.¹ There is no special court of appeals in Tasmania and Queensland, but any employer or employees affected by the determination may apply to the Supreme Court of the state for a rule calling upon the board to show why a determination shall not be quashed in whole or in part because of its illegality. In New South Wales, Queensland, and South Australia under the present laws, an appeal is taken to the Court of Industrial *Arbitration*. The difference between this method and the Victorian one may not seem to be important, but in fact it is of fundamental importance, as will be readily understood by any one familiar with regulation by compulsory arbitration. Under compulsory arbitration, the Industrial Arbitration Court is the controlling factor. The boards are constituted on its recommendation. Their chairmen and members are appointed by the court and the jurisdiction of the boards is defined by the court. In case of a threatened dispute,

¹ An amendment to the Factories and Shops Act in Victoria was passed on November 2, 1914, whereby the Court of Industrial Appeals is made to consist of a judge of the Supreme Court designated by the Governor in Council, and two lay representatives, one nominated by the employers' representatives on the Special Board whose determination is appealed against and one nominated by the employees' representatives on the same board. A majority of the court thus constituted shall decide every appeal or the Minister may refer any decision of a Special Board to this court for its decision.

the court may proceed with its investigation and may make its awards without the intervention of the industrial board. Any of the parties to the proceedings of a board may appeal to the court for a rehearing or for a variation or amendment of the board's award.

The factory inspectors are made by law also inspectors of awards. They are to see that the determinations or awards are enforced in the same manner as are the factory laws. Severe penalties are provided for violations. No prosecutions for violations can be brought except through the department.

2. *Wages Boards at Work.* Wherever conditions permit, that is, wherever the industries of a state are highly concentrated, as is the case in the leading Australian states, wages boards generally meet about once a week towards the close of the day, after employers and employees have completed the day's work in their ordinary occupations. In Victoria and South Australia, the meeting places are usually rooms in the chief factory inspectors' offices. The rooms are often small and with the members tightly packed around the table, most of them smoking, they present a crowded, dingy and uncomfortable appearance. It is the custom to have two sessions, one before dinner, say from 4:00 or 4:30 to 6:30 P.M., and another after dinner, say from about 7:30 to 9:30 or 10:00. The fee paid to each member is 10 s. in Victoria and South Australia, while double this sum is paid to the chairman. In New South Wales, the fees paid are twice the amounts paid in other states, but as the boards are small, the total cost of a session may be no larger than elsewhere. "No cheaper machinery for the legal settlement of industrial questions could well be provided," says Mr. Aves, "and even if, as sometimes happens, meetings are held continuously for a period of several months before the

determination is fixed, the cost is still no great matter."¹ Meeting places in Sydney are frequently the police courts, which practice is in keeping with the judicial character of the New South Wales Boards. When a board is obliged to travel, traveling expenses are allowed in addition to the member's fees.

The size of a board varies with the importance of the trade which it represents. For the more important occupations, the usual rule is a board of ten members beside the chairman. For trades in which the number of establishments and the number of employees are not so great, boards of four to six usually suffice. The distribution of members follows more or less closely the distribution of industrial establishments throughout the industrial area. While in Melbourne most of the members come from the city and its suburbs, it is not unusual to have a member from Ballarat, Bendigo, Geelong or other industrial center sitting with the Melbourne representatives, if the industry happens to have important establishments outside the metropolitan area.²

The trade unions naturally endeavor to have their strongest and shrewdest members as their representatives, and frequently the trade-union secretary sits as a member of the board, altho objection has been made to this practice. Inasmuch as he is usually a paid official, and during his term of office is not engaged in his trade, it has been claimed by employers that he may not represent the trade. To obviate this objection, at times the trade-union secretary has resigned from office while sitting on a wages board and has, for the time being, resumed work at his trade.

¹ Aves, Report on Wages Board, etc., p. 20.

² A recent amendment (November 2, 1914) to the Victorian act provides that where one-fifth of the employers or employees in a trade or business for which a Special Board is provided reside outside the Metropolitan District (Melbourne and suburbs) one at least of the representatives of the employers and one of the employees' representatives shall be from outside such District.

Frequently some of the most important employers in a trade are selected as members of a wage board and they usually accept appointment. The fees are of course of little importance to them, but the board's determination is likely to be a vital matter to them, and this doubtless explains the willingness of large employers to sit as members of the board.

In occupations in which women form a considerable portion of the employees it is not unusual for women to serve as members of boards, altho as we have seen, in some states there is a feeling that they are not capable of holding their own in the bargaining process. Judging by my own observation at board meetings where women were representatives, this objection is not a valid one, as the women appeared to be fully as keen as the men and no more timid in pursuing their own interests than were the male members. On one or two boards — those in the clothing or dress-making trades — which I visited, all of the employees and one or two of the employers' representatives were women.

The importance of having the determinations drawn in proper form so that they may be easily interpreted and administered by the factory inspectors has already been mentioned. For this reason it is the custom in Victoria to have one of the clerks from the chief factory inspector's office serve as secretary. Where women serve on boards, a lady inspector serves as secretary. The secretary receives compensation for his services, and as the clerks seem quite anxious to earn the extra fees, the chief factory inspector urges upon them the importance of seeing that the determinations come in in proper form, and threatens them with the refusal of further appointments if the determinations of the boards which they serve are not in satisfactory shape. Tho as a general rule the secretary is a silent personage

in the board meeting, the long experience which some secretaries have had enables them to suggest to the chairmen that certain proposals are not regular and could not be carried into effect if adopted.

The first step after a board convenes is, of course, the election of a chairman. Owing to the fact that the chairman has the deciding vote in case of a tie, this is a very important part of the proceedings. Many names are suggested by one side or the other, only to be rejected by representatives on the opposite side of the table. Frequently the parties are unable to agree and the chairman has to be selected by the Government. Whether elected by the board members or appointed by the Government, the choice in the states in which boards have been in existence for some time is usually confined to men who have already had experience as chairmen. The result is that the same men act repeatedly as chairmen of the same board and as chairmen of many boards. In both Victoria and South Australia, I found that there were several men who were especially popular as chairmen and all the time which these gentlemen were willing to give to such meetings was usually taken up. There seems also to be a certain tendency to select certain classes of persons as chairmen. In both Victoria and South Australia police magistrates seem to be the favorite choice, altho ministers of the gospel and former public officials are also popular.

It is rare that a man who has been engaged in the trade for which a board is seeking to make a determination is called upon to serve as chairman. Such a man if he were lacking in bias, would be an ideal chairman owing to his knowledge of the technicalities and customs of the trade. But inasmuch as he must be or have been either an employer or an employee, it is seldom that the opposite side will accept him. There have been several

notable exceptions, however, in the case of men who were formerly engaged in the trade but who no longer have a direct interest in the determination and who are known to be fair-minded. These men have usually succeeded not only in satisfying both parties, but their knowledge of the trade has enabled them to rule out extraneous evidence and to cut short discussion on irrelevant topics and in this way to hasten the completion of the board's work.

In New South Wales the chairmen are usually lawyers, frequently young men ("briefless barristers" as they are ironically termed) who have been selected by the judges of the arbitration court. The judges are doubtless influenced by a desire to have the board determination drawn up in proper form, and perhaps in part by a desire to aid the members of the legal profession who have not yet attained a lucrative practice. It would be a mistake, however, to assume that all the barristers and solicitors who serve as chairmen of the wages boards are of this class, for several of the most prominent members of the Sydney bar have frequently been called to serve as chairmen of important boards.

The chairman is, of course, the most important figure in most board meetings and on his wisdom and skilful guidance frequently depends the success of the board. A wise chairman does not attempt to limit discussion until both sides have had an opportunity to present their arguments in full and it has become evident that further discussion will accomplish nothing. Even tho the chairman is convinced that the arguments presented are fallacious and that they are intended to annoy rather than to convince the representatives of the other side, he is likely to tolerate them for some time in order that he may not be accused of bias by having interfered in the discussion. Usually he sits quietly

smoking, merely asking a question now and then, perhaps to clear up some clouded point or possibly in the hope of directing the argument into proper channels, but reluctant to take any further part in the discussion until it is clear that the time has arrived for him to state his opinion or to call for a vote. There is, of course, considerable difference in the practice of chairmen in this respect. If the chairman is one who is thoroly acquainted with the trade, either because of actual experience therein, or because of previous service as chairman of the same board, members will accept his dictation and interference with less complaint than they will when the chairman is not fully acquainted with the intricacies of the trade in question. A quarry board which I visited while in Melbourne was presided over by a man who had formerly been engaged in that occupation. He was a man who showed little patience with arguments brought up by either side which he recognized to be to no purpose and he did not hesitate to tell the members frankly that they were talking nonsense. His good judgment and evident desire to give impartial treatment led the members of the board to accept his interference in a way which they would hardly have tolerated on the part of one not familiar with their trade.

A discussion in a board meeting is usually opened by the side which is responsible for having called the board into existence or which has asked for a rehearing; its demands are presented. This, of course, is a purely formal proceeding. The representatives on the other side recognize that the demands as at first put forward are extreme and by no means indicate what their proponents are willing to accept. There is considerable skirmishing for position before the discussion settles down to a serious strain. Inevitably there is much

time which is seemingly wasted. There are many reasons for this waste of time. Members of a tramway board in Melbourne which had been called together to make a new determination in that industry frankly admitted to me that they were engaging in consuming time in discussion and in adjourning from week to week because they were waiting for a judgment by Mr. Justice Higgins of the Commonwealth Arbitration Court, who was at that time hearing an interstate dispute between tramway officials and their employees. In this case the waste of time was going on in the court as well as in the board for at least one of the parties to the dispute in the court was endeavoring to prolong the hearing in the hope that the Melbourne wages board would arrive at a new determination which might be urged as a reason for establishing a new standard in interstate awards. On the other hand, the board was anxiously awaiting the judgment of the court in order that it might be taken advantage of in fixing the terms of its determination. In still another board which I visited, the chairman remarked to me one evening that I had better not waste my time on that particular board for the time being, because the employers representatives expected to consume an evening or two in reading from newspapers accounts of conditions in their trades in Great Britain altho they knew perfectly well that these would have little or no effect on the determination. They were doing it, he said, merely to "get even" with the representatives of the employees who had introduced similar matter equally irrelevant at other meetings. This was a case where it would seem to the outsider that the chairman might well have shown a little severity and have ruled out all such irrelevant matter. Yet, as this was an unusually tactful chairman, it is probably fair to assume that he exercised proper judgment in the

matter. A prominent employer to whom I happened to mention that there seemed to be a good deal of waste time in board meetings, explained: "Waste time! I have sat in board meetings night after night and helped waste time, when the determination as finally reached was something which my colleagues and myself would have been willing to grant after ten minutes' discussion." The reason why they found it necessary to waste time in discussion was that if the employers had agreed at once to grant what was ultimately conceded it would not have been accepted by the other side, and there was danger that the chairman would have compromised matters by settling terms midway between what the employers had been willing to agree to and that which the employees were demanding. By continuing the discussion the employees were compelled to reduce their demands to what the employers were willing to grant.

It is possible that another motive for this waste of time may be found in the fees which are paid to members of the board and to the chairman. While a fee of 10 s. (\$2.43) means little to a large employer, it is a welcome addition to an employee's earnings and the 20 s. (\$4.87) or even £2 (\$9.74) paid to the chairman is by no means an unimportant fee for a man of relatively small income. Judge Scoles, acting judge of the New South Wales arbitration court, told me that the delay in reaching decisions on the part of some of the New South Wales boards had been at times little short of a scandal and he was inclined to attribute this delay in large part to the fees paid to the chairmen and members. Mr. A. B. Piddington, himself a man of long experience as chairman of wages boards, in his recent report as Royal Commissioner to inquire into the working of industrial arbitration in New South Wales, recommends

that the government fees paid to lay members of the boards be abolished.¹ If it should be found necessary or desirable that fees be paid to lay members, they should, he thinks, be paid by the trade unions or employers whom the board members represent.

The discussion in board meetings is, as a rule, decidedly informal. Members talk freely across the table during the earlier stages of the proceedings, apparently endeavoring to convince their opponents of the reasonableness of their arguments, and often many points at issue are settled by a common understanding. When this method fails, and especially toward the close of the proceedings, the arguments are directed more to the chairman with a view to securing his vote, when it is realized that this will be necessary to reach a determination on the matters still in dispute. Altho all parties have a right to take a part in the discussion, it of course usually happens that the lead is taken by one or two on either side. Oftentimes the presentation of the case has been prepared beforehand, and particular lines of argument have been assigned to different representatives of either side. It is not unusual for the members on one side or the other to ask to be allowed to withdraw from the conference room in order to consider together some proposal which had been made by the other side. In such cases, the proposal may be accepted or rejected, and a counter-proposal made, or the proposal may be accepted in part with a view to securing a concession of some other point by the opposite side.

Generally speaking, the discussion in most of the boards which I was privileged to attend was conducted in good temper and was earnestly presented with a view to carrying conviction. At times, however, there was considerable display of feeling, and accusations of

¹ Piddington Report, p. xli.

improper motives and the calling of harsh names were by no means lacking. I have frequently heard the lie passed across the table, and at one board meeting an angry employer went so far as to invite a nagging trade-union secretary from the other side of the table to step into the hall and settle the discussion by a resort to fists. From the meetings of this board, it was my custom to go to another board which sat on the same evening, — the gardeners' board, — where in a manner appropriate to that calling the discussion was quiet and peaceful. This board was dominated by a gray-whiskered, kindly-spoken, big-hearted employer who frequently suggested to the employees on the other side of the table that they might well afford to ask more than they were demanding, while at other times he cautiously pointed out to them that there were employers in the trade who could not afford to pay what the employees were demanding for special services, altho he expressed a willingness to do so himself. This gentleman's proposals were received by the employees on the board in the same spirit in which they were offered, and a determination was therefore framed in large part along lines suggested by this particular employer.

Inasmuch as the wages boards are examples of pure collective bargaining, it can hardly be said that there is any underlying principle which is followed for the determination of wages. The employees generally endeavor to get all that is possible and the employers to grant as little as possible. It must be kept in mind that during the period that wages boards in any state have been in existence prices have been in an upward direction, and for this reason alone we might expect that wages would also have a tendency to rise. It is probably largely for this reason that one finds in wages boards employees constantly urging an increase in cost of living as a

reason for an increase in wages. Employers are, for the same reason, largely on the defensive, and endeavor to counteract arguments on the cost of living by claiming that the industry will not stand such an increase of wages as is being demanded, because of outside competition or the low profits being received by employers. Owing perhaps to the fact that there has been until recently little statistical evidence of a reliable sort tending to show the extent of the increase in the cost of living, such evidence as the workers have presented has been of a sporadic sort, based largely on their own experiences. Probably it has been none the less effective for that reason. More than once I have heard employers admit after a worker had read a statement as to what he had been able to purchase with his wages that one could not blame him for asking for an increase in wages. On the other hand, I have also heard the employees reluctantly confess that in view of what employers have said concerning the competitive conditions in their industry, they must content themselves with a less increase in wages than they had believed they were entitled to. On the whole, one who has attended many meetings of these boards goes away with the impression that both employers and employees leave these boards with a much better understanding of the conditions which the other side has to meet than could be obtained in any other way than through these face-to-face informal conferences.

Mr. Aves has expressed the opinion ¹ that there is a great need for statistical information concerning such factors as prices of raw material, house rent, and the like, which could be used by the boards as evidence of the claims made with reference to the cost of living or the cost of production. Such evidence is of great value

¹ Aves, *op. cit.*, p. 20.

to a judge of an arbitration court and nearly all the judges of arbitration courts in Australia and New Zealand have at times expressed the need of accurate information of this sort to guide them in reaching a decision in regard to wages. It is doubtful, however, if it would be of much value to the wages boards, where the process is one of bargaining and of mutual concession rather than the reaching of a decision based on evidence.

The boards may, if they desire, take evidence from other than members of the boards concerning matters which are in dispute. The taking of evidence does not consume a very large part of the boards' time in Victoria, nor did it in South Australia while the latter colony had the Victorian system. But in New South Wales the taking of evidence consumes more time than any other one thing in the boards' work, and the determinations finally reached are based more on the evidence taken than upon the results of the conferences between representatives of employers and employees. The importance attached to the evidence taken by the New South Wales boards in making an award, as compared to that shown by the wages boards in other states, is a clear proof of the fact already stated that the New South Wales boards are in reality judicial tribunals rather than conciliation boards. The evidence taken in the wage boards usually relates to details of the trade and is intended for the information of the chairman. Such information is usually a matter of common knowledge to the members of the boards, who are engaged directly in the trade.

It seldom happens of course that either side obtains all that it is requesting at a board meeting. Generally there is a compromise, and a wise and tactful chairman is always waiting for the opportunity to suggest a com-

promise which he has reason to believe will be acceptable to both parties. In the early stages of the conference the parties on one side of the table generally attempt to convince those on the other side of the justice of their demands. Failing in this, the arguments, towards the end of a conference, as has just been said, are usually directed toward securing a favorable vote from the chairman and are therefore directed to him. Some chairmen pride themselves on their ability to secure an agreement among the parties without the necessity of casting a deciding vote. Rev. A. R. Edgar, for many years chairman of the clothing board, as well as other boards, has told me that he has never yet been obliged to cast the deciding vote. At times, where an agreement has seemed impossible he has adjourned the board meetings until the parties have informed him that they were able to report an agreement. While such results are not infrequent, it commonly happens that the chairman must practically make his position known, — that is, he must indicate how far he is willing to go in the matter of an increase in wages, — before the two parties can be made to come to an agreement on this vital issue. The most experienced chairman of the wages boards in Victoria has told me that he is seldom obliged to give a deciding vote, but I have noticed in board meetings over which he presided that after a lengthy discussion, when apparently all the arguments on either side had been presented, he would announce that he was willing to agree to a certain wage or other arrangement. Generally this was a compromise between the proposals made by the two parties, and it was then left for one side or the other rather reluctantly to make the motion that such an arrangement as the chairman had suggested be made, whereupon the other side would accept the proposal.

The wages boards in Victoria and Tasmania and until recently at least those in South Australia and Queensland are therefore true examples of collective bargaining, since the agreements are reached as a result of full presentation of the claims of employers in a trade collectively represented and those of the employees in the same trade also collectively represented. The chairman, altho possessing considerable power, is bound to exercise it with discretion if he is at all inclined to bring about a determination which will satisfy in a measure both parties and which will permit the industry to continue without interruption. The boards in New South Wales, on the other hand, do not convey to the visitor the impression of being conferences wherein employers and employees make their own bargains. The taking of evidence, the inquiries made by the board members, the extended arguments presented by representatives of the two sides with a view to influencing the board's decision, all give the appearance of a judicial tribunal. This impression is heightened by the knowledge that in most cases the parties may make an appeal direct to the arbitration court. As a matter of fact, the conciliation councils in New Zealand, while not pretending to the name of wages boards, far more resemble the wages boards in Victoria than do the New South Wales boards. Indeed, in many respects, the conciliation councils are better examples of collective bargaining than even the Victorian boards; for the chairman in such councils has no deciding vote and when an agreement is obtained it must be reached by the two parties alone. One must not be misled by this fact into reaching a conclusion that a chairman might be dispensed with under the wages boards plan. The wages boards' experience under the 1902 amendment to the Victorian law, which took away from the chairman the

right to vote, clearly showed the impracticability of such a plan. The real reason why the conciliation councils in New Zealand are able to reach an agreement in the majority of cases is the fact that both parties realize that if an agreement were not reached the case would automatically go to the arbitration court for final adjustment and, generally speaking, employers and employees prefer to settle their own differences.

M. B. HAMMOND.

OHIO STATE UNIVERSITY.

DEPRECIATION AND RATE CONTROL

A CRITICISM

In a recent article in this Journal ¹ Professor Allyn A. Young takes to task the United States Supreme Court and public service commissions generally for erroneous thinking and improper action in regard to depreciation in connection with valuations made for purposes of rate regulation. Confining his attention to the physical property element in the valuation, he argues that the property taken as evidence of the investment can and should be valued for that purpose as tho it were new, without allowing for age, wear and tear, and obsolescence, in the case of large and varied properties, except for depreciation allocated to a period in which depreciation accruals were legally charged to operating expenses. In this opinion Professor Young ranges himself with Mr. James E. Allison, public service expert, and till recently chief engineer and influential member of the St. Louis Public Service Commission, which alone has adopted the policy for which argument is made. As frankly he sets himself against the accepted opinion of the day.

Much in Professor Young's article is above criticism. To the notion of a "state of normal average depreciation" attention deserves to be called, and the figures cited easily emphasize the importance of the issue here raised. The summary of certain developments in the accounting regulations of the Interstate Commerce Commission is valuable, tho intentionally not comprehensive. The statement and illustrations regarding the

¹ Depreciation and Rate Control, vol. xxviii, pp. 630-663, August, 1914.

depreciation of particular assets are helpful. And in particular I should cordially assent to the first of his three summarized conclusions in the form in which it is stated. Furthermore, he would be bold who would undertake to defend public service commissions, or even the United States Supreme Court, against charges of looseness, inconsistency, and inaccuracy of statement, or to support all their rulings. Members of these bodies cannot be experts in all fields or infallible in any, and their reasoning and conclusions frequently merit criticism.

Nevertheless, on the fundamental issue which Professor Young raises I am convinced that the current view is correct, and that the attack upon it deserves no support from economists.

The issue may be resolved into three separate questions, all relating to deductions, in valuations for purposes of rate control, for depreciation of physical plants operated by public service companies, during periods when such allowances for depreciation were not prescribed by law.

1. Is such deduction *necessary* in order correctly to state the present investment in the plant ?
2. Is such deduction, retroactive in its effect, *just* to public service companies ?
3. Is such deduction, involving (as it ordinarily does) the carrying of a permanent reserve for accrued depreciation, *expedient* ?

The first of these is purely a scientific question, in the realm of economics and accounting. The second is an ethical question, involving the propriety of a sort of *ex post facto* legislation, but also, be it noted, the problem of equality of treatment of different companies. The third is purely a question of public policy, not wholly dependent upon the answers to the first two.

To each of these questions, tho he does not consider them in this precise form or order, Professor Young would give a negative answer. Let us consider them in turn.

We may begin by asking whether we can arrive at a closer approximation to the "present value" or "amount of the investment" by regarding or by disregarding age, wear and tear, and obsolescence?

The editor of the *Railway Age Gazette* recently remarked:¹ "William Mahl, of the Southern Pacific, expressed the feeling of a great many practical railroad executives when he argued that if a car or locomotive were kept in perfect repair it did not depreciate." This is not an uncommon notion among business men generally, tho it would be accepted by few accountants or economists. Professor Young would not make this particular statement, for he is at pains to describe the nature of depreciation of individual capital goods; nor would he say it of a plant in which one physical unit was of dominant importance; but he comes perilously near to saying it with respect to a property so varied that "no single wasting asset or group of assets is of dominant importance" and repairs, renewals, and replacements are normally fairly regular in amount. "There is no necessary correlation between the mere aging or even the physical wear and tear of capital goods and the diminution of the investment. The concrete facts in the case are few. When capital goods are installed their cost is a definite amount of investment; when they are retired from use the investment is diminished by the amount of their cost, minus salvage. If such capital goods are replaced promptly when retired, is not the amount of the investment, in every real sense, kept intact?" (pp. 650-651). In other words, the indi-

¹ Vol. lvi, p. 727, March 27, 1914.

vidual capital goods indeed depreciate; the plant, the sum of them, under the conditions described, does not. The whole is not equal to the sum of its parts. Hence to deduct from the original cost or replacement cost an item for accrued depreciation on the items of the plant would involve an understatement of the "amount of the investment."

It is highly probable that Professor Young overestimates the strength of the tendency to regularity of replacements and the maintenance of a steady level of "productive efficiency"; but this is, after all, a question of fact rather than of principle. Granting that the facts are as he assumes them, is the "present value" or the "principal of the investment" independent of the depreciation of individual items in the plant?

To my mind, the reason why capital goods are wanted and valued at all is that they possess capacities for contributing certain services toward the completion of the productive process and its result in valuable finished products. Each bit of material, each machine, each tool, is wanted and valued because it embodies a certain store of productive power which can be brought to bear in the productive process. As each unit wears out, or ages, or becomes obsolete, this store of productive power is exhausted or leaks away. For the day, an old car or locomotive may be "as good as new"; with proper repair its daily or monthly serviceability or output may remain constant; but the diminution of its productive power goes steadily on. Moreover, it seems to me, the relative values of different capital goods are determined by the relative amounts of productive power which they contain; and for the same reason the relative values of a single machine or other capital good at different times are naturally determined by estimates of the productive

power therein embodied. In short, as the decline in productive power takes place the item depreciates in value. We cannot accurately ascertain the precise extent of the diminution of productive power, hence the figure for the value of a partly worn or partly aged capital good is more or less inexact. But of both decline and depreciation we may be certain.

And can the summing up of the multifarious units of a physical plant blind us to the fact of diminished productive power in an old plant as compared with the same plant new? Its daily capacity may be no less; with proper repairs and replacements that capacity may never decrease; with such "maintenance" the productive power of the plant will not decrease below a certain point; but unless the equipment has been increased and the capacity thereby enlarged, the store of productive power in the plant will inevitably decline as, from a state of newness, the state of normal average depreciation is approached. This is inevitable for the plant as a whole, as depreciation is inevitable for each individual item in it. It occurs irrespective of the beliefs, hopes, or wishes of investors or managers, regardless of accounting standards or the law, independent of actions or theories of public service commissions or the courts. One may be unable to measure the precise extent of the decline; one may shut his eyes to it entirely; one may show it on the books in one way or another or not at all; one may or may not need to alter his industrial or financial policy because of it: but the fact remains. The decline is the result of forces beyond the control of proprietors, courts, or commissions. The plant in a state of normal average depreciation has something like fifty or fifty-five per cent as large a store of productive power as a new plant of similar make-up and producing capacity.

And I submit that this productive power is the natural and proper criterion of the value of the physical plant, as for any unit or group of capital goods. Whatever the purposes of an appraisal, one can hardly imagine appraisers setting the same valuation upon two plants precisely alike except that one was brand new and the other in the state of normal average depreciation. If we could imagine a perfect market for physical plants of going concerns, we could not conjure up the spectacle of business men paying, at one and the same time, the same amount for a new and a well-worn plant of the same type. And true as it is that there is no actual present market value to afford evidence of the proper valuation for purposes of rate control, the difference between probable present market values of new and comparatively old plants would suggest an underlying difference which is significant for the valuation of the plants in going concerns. The burden of proof to show that this difference in productive power may for practical purposes be disregarded in valuations for purposes of rate control is much heavier than the advocates of the new doctrine seem to have realized.

On the other hand, Professor Young would make "productive efficiency" the criterion of present investment: proper repairs and replacements being made, a large and varied plant does not decline in productive efficiency, and if it does not so decline, then the amount of the investment remains essentially, "in every real sense," intact. But "productive efficiency" is a somewhat elusive phrase. If it signifies output at a given time, or perhaps even output at an unchanging cost for inevitable expenditures connected with production, we may agree that productive efficiency does not decline. But must it not mean something else? Repairs and replacements Professor Young himself asserts are part

of the operating expenses. These expenses are inevitably small early in the life of a plant and larger when it has reached its stage of normal average depreciation. The output per unit of total operating expense, if depreciation is neglected and the plant merely maintained at a given size and capacity, therefore inevitably declines as the plant "settles down." This Professor Young admits when he acknowledges that the "profits" may be expected to be larger during this interval than later. *Only by counting into operating expenses from the start an item for depreciation to represent productive power exhausted and not replaced will the total operating expenses per unit of product remain constant.* Adequately interpreted, it seems to me, productive efficiency must have reference to this relation between output and the total cost of producing it; and, if this be true, only by allowing for depreciation from the start can the productive efficiency be said not to decline.

It is the failure to differentiate between productive efficiency in a too narrow sense and productive power that led astray the railway officials above mentioned; and Professor Young seems to have run afoul of the same snag.

We may therefore conclude that the decline in productive power and consequent depreciation in value must in some way be taken into consideration if we are to arrive at even an approximate figure for the present value of a partly worn or partly aged physical plant. Neglect of it, whatever its large or small consequences, will at least distort the accuracy of this figure by the amount of such depreciation. Of course this statement carries with it no censure upon public service companies for failure to take regular account of depreciation or neglect to carry a depreciation reserve in days before the law or accounting practice required such actions. It

simply means that if they have not done so, their figures for plant value are so far inaccurate; their profits have been, perhaps innocently enough, overstated; their dividends, if they have distributed all their calculated profits, have included part of their investment; their stated surplus, if they have refrained from distributing all their calculated profits, is at least in part a spurious one, the right to distribute which to the stockholders may well be called in question.

This is the principal question but not the whole one. When a public service company has operated for years without making such allowance for depreciation, under a well-warranted understanding that such allowance was at most unnecessary, is it just to require that henceforth rates be adjusted so as to afford a proper income on the actual investment rather than on the amount the proprietors considered still to remain invested? Professor Young writes: (p. 653) "In general, there is a reasonable presumption that the investments in undertakings which have not accumulated a depreciation reserve were not made with the expectation that it would be necessary to charge depreciation accruals to operating expenses. It follows that it cannot in general be presumed that the profits of such undertakings have contained an element which should unquestionably be considered a repayment of part of the invested principal. Accordingly, serious objection might properly be made to a system of compulsory accounts which requires that property already on hand be written down for depreciation." I have already adverted to the question of profits; but the question of justice remains.

It is clear that such a writing down as would be entailed by the "retroactive" operation would affect future rates and future dividends, and consequently the present value of securities outstanding. Yet no

regulation of past actions or profits is involved. The investors are not required to disgorge the sums they received in the false guise of profits; they are not required to return the profits actually secured for years when rates were allowed to remain at a level to yield normal income on a capital sum higher than the actual investment; nor will rates or the value of the securities be now reduced below what they would have been had the company kept regular account of depreciation but otherwise followed the same policies. The company is merely dislodged for the future from a position unwarranted by present facts, and this, while no doubt irritating, seems hardly unjust.

Moreover, no breaking of contracts, express or implied, is involved. The risk of regulation of rates is one of the many which investors in public service undertakings had to take. No guarantee of immunity from this was given, nor was any assurance given that the company's figures would be accepted as the basis for rate making in case such a policy should be instituted. It may be that the promoters with characteristic optimism expected no such action, and aroused similar expectations in the purchasers of their securities. The legal decisions that no depreciation reserve or reserve fund was required to be accumulated may have cultivated expectations that in possible regulation of rates depreciation would not be considered; but the two were not necessarily connected. In any case, past "expectations" are notoriously difficult to ascertain and notoriously unsafe as a basis for present action; and it is not safe to presume that if an allowance for depreciation had been required from the outset investments would not have been made or would have been smaller.

Another aspect of this ethical question, however, must be noticed. Justice implies impartiality, equality of

treatment. Compare now the situations of two concerns which started out at the same time with equal plants, which have been conducted with equal efficiency, under identical conditions, and which have maintained equal outputs; but one has regularly charged depreciation to operating expenses while the other has not. If they pursued the same dividend policies, therefore, at the end of any period after both have reached the state of normal average depreciation, the more conservative company will show a smaller net figure for plant and at the same time a smaller capital *stock* account if the surplus earnings due to the "settling down" period have been actually divided to stockholders, or a smaller surplus and no larger item for outside investments if they have refrained from dividing such surplus earnings. If now a public service commission differentiates between them on the ground that one expected to allow for depreciation while the other did not, and prescribes rates to yield the same income on the nominal investment of each, the rates will be considerably higher for the concern which did not allow for depreciation, despite equality of productive power and productive efficiency. Relatively speaking, therefore, the company which adopted standards in advance of its time is penalized for the indefinite future for having been so wide-awake!

Numerous changes might easily be rung on this illustration, but they would yield similar results. In short, to make allowance for depreciation in valuation for purposes of rate control not only involves no injustice to companies which have been only abreast of their day, but it involves actual inequality of treatment among companies which for one reason or another have adopted different policies in this regard, with relatively unfavorable treatment for the most advanced managements.

The question of expediency remains. The presumption is distinctly in favor of it, if the preceding arguments are valid. Even Professor Young admits that there is no great objection in the case of the railroads to the debit of retroactive depreciation charges as their amount is ascertained, if such debit is made direct to profit and loss, thus decreasing the stated surplus or increasing the stated deficit, rather than being charged against the annual earnings (p. 655). But one objection seems to him to be fundamental. Since replacements and repairs tend to be fairly regular in amount, once the state of normal average depreciation is reached, there is no need for an accumulated reserve for accrued depreciation which permanently remains on the balance sheet. Such a reserve he dubs "unusable," "useless" (pp. 650-652, 658).

For clearness' sake it may be mentioned here that if depreciation is taken into account an item is regularly charged into operating expenses to cover estimated depreciation accrued through the fiscal period and credited to "Reserve for Accrued Depreciation," a balance sheet account. Against the credit so arising may be charged the cost of replacements; or, more satisfactorily, when an item of plant is retired the reserve may be reduced by the amount theretofore credited to it on account of this item, while the property account is reduced by the cost of the item retired. The net credit to "Reserve for Accrued Depreciation" may be at once set off against the property account, reducing it by the amount of the net estimated depreciation. But more commonly it is carried separately, and either listed among the liabilities or, now more frequently, subtracted obviously from the cost figure for property account on the balance sheet, the net figure as well as the others being shown directly. In

short, it is an accounting device to record depreciation in numerical amount without acting as if the precise amount of decline in productive power were definitely ascertained.

In what sense is such a reserve unusable, useless? If it enables one to state with some approach to accuracy the net present investment in plant and equipment, without destroying what significance the cost figures may have, it unquestionably performs a useful if modest function. If, on the other hand, it prevents such an approach to accuracy and leads to an understatement of the present investment, the "reserve" is not useless but far worse, — it is thoroly misleading and wrong. Professor Young does not directly charge the latter, and our reasons for holding to the former view have already been stated.

The only assumption on which Professor Young's language is intelligible to me is that, in spite of his better knowledge, he has fallen into an error which arises out of the current abuse of the term "depreciation reserve," by employing it to designate not only the account above described but a thing essentially different, — namely a segregated fund of particular assets, cash, securities, or what not, which may be drawn upon to meet ordinary or extraordinary repairs, renewals, and replacements. Such was the "growing fund" which some of the early toll-bridge charters required to be built up against the decay or destruction of the bridge structure. A safer term for this is "depreciation fund" or "renewal fund." How large such a fund shall be is purely a practical business question: what amount may be needed to ensure the prompt coping with contingencies which ought to be taken into account? It has no necessary relation to the amount of depreciation in the property; the relation would normally be close in the

case of a toll-bridge company but very distant where a large and varied plant existed, whose different units had different ages and dates of installation. The utility of such a fund consists merely in the preparation which it provides for making expenditures on plant and equipment when needed.

In a word, the depreciation fund is an asset; the "reserve for accrued depreciation" is not, but is frankly an "offset" to a frankly inflated asset figure. The reserve proper has no necessary counterpart in any particular assets; a "depreciation fund" of an equal amount or much less may be maintained at the same time, but very commonly no such fund is found needful, much less is it commonly required by law or public service commissions. The depreciation reserve proper has nothing whatever to do with ability to make expenditures for replacements or renewals, regular or irregular, except in so far as it may insure more comprehensive knowledge of the plant and thereby facilitate intelligent prevision of future needs for such purposes. Thus Professor Young is right in saying that "the deduction for depreciation cannot be justified by appealing to the necessity of providing for replacements" (p. 662); but this is not the whole truth. If the requirement of deducting for depreciation necessitated the accumulation of a "depreciation fund" equal to the accrued depreciation, such a fund would in large measure be unnecessary to ensure proper repairs and replacements, and, tho it would probably be invested in income-bearing securities and not be "idle money," it would be a superfluous provision and in this sense "useless." Professor Young seems to imply throughout that this result tends to follow. On page 648 he asserts a modified form of this implication. "Altho no investment of a separate depreciation fund is required, yet the writing down of the capital assets

by the amount of the 'accrued' depreciation means in the long run either that other assets have to be larger in amount than they otherwise would have been or that liabilities have to be smaller. Usually the growth of the reserve for accrued depreciation means in practice that additional permanent investments are being made out of earnings. The reserve represents an additional, permanent, and compulsory investment in the business to take the place of the amount of the investment written off for depreciation."

It will be noted that this consequence, if it be such, is no different in the case of companies starting out under strict regulation than in the case of companies existing prior to such regulation and summarily brought under its provisions. The "depreciation fund" or its equivalent is equally "useless" in the two types of cases. But consider the alternatives actually presented to a company when required from the outset to provide a "reserve for accrued depreciation" on its plant. There are at least three. During the period of settling down to the state of normal average depreciation the expenditures for replacements and repairs will be small. (1) It may not divide the earnings representing this temporary saving as profits, for they are not so. It may use them, however, to purchase additional items of plant or equipment, thus increasing its current productive capacity without increasing its net investment. (2) Or, it may invest them in income-bearing securities, securing thereby a supplementary income. (3) Or, it may divide them to the stockholders, as a return of part of the investment, and reduce the capital stock accordingly. The first of these alternatives is commonly chosen, chiefly because businesses seldom spring full-fledged from the heads of their promoters and if successful usually expand. Where, however, conditions are

static and increase of output would be unprofitable, uneconomical, this policy would be avoided, and one of the others adopted. The second policy has the advantage of making possible the making of replacements at most advantageous times and of maintaining a stable rate of dividends; but there is no assurance that a fund precisely the amount of the accrued depreciation would be required to serve these purposes, and the policy has the disadvantage of involving the company largely in affairs outside the realm in which its managers are presumably most efficient. In practice, however, a combination of these first two policies is usually found desirable. But the third policy is not ordinarily precluded by law or public service commission ruling. Where no contingencies need be provided against, where instability of dividends is not deemed probable or undesirable, where increase of operating facilities is not called for, a frank division of such part of the original investment as proved to be no longer necessary would be the appropriate policy. The requirement of the depreciation reserve merely ensures that such reduction shall take place openly and in due form rather than surreptitiously or in ignorance. Control to this extent of the financial policies of the companies affected is today, in the view of many observers, far from inexpedient. And the slight adoption of this alternative is to be regarded as indicating not the compulsory adoption of one of the others, but their greater profitableness.

Three alternatives are similarly present in the case of a company which has not heretofore taken account of depreciation. Additions beyond mere replacements may at once or gradually be made to plant and equipment until the net investment equals the amount originally carried. Or, funds may be segregated, at once or gradually out of earnings, to constitute an income-yielding

depreciation fund. Or, the par value of capital stock or the stated surplus may be reduced, or the deficit figure increased, by the amount of the depreciation reserve, so that the "net proprietorship" figure will correspond to the actual amount of the investment. Business conditions, in the main, will determine which is the best procedure in each concrete case. Public service commissions may well be wary of laying down precise regulations as to the method to be adopted, provided the result be secured; but the mere requirement of recognizing the fact of past depreciation and taking it into account involves no burdensome or inexpedient control of financial policies of the companies concerned.

To conclude:

1. The requirement of an allowance for depreciation is necessary in order to state with an approach to accuracy the "present value" of or the present "amount of the investment" in a physical plant.

2. Such requirement, tho affecting companies which had deemed no such allowance necessary, involves no injustice to particular companies, while the absence of such requirement when making valuations for purposes of rate regulation would lead to unequal treatment of companies which had pursued different policies.

3. The presumption in favor of the expediency of such a requirement, raised by the foregoing facts and by the further circumstance that such "cost-keeping" tends to promote more intelligent conduct of the enterprise, is not overthrown by the appearance of any consequent inexpedient restrictions on financial policies.

Or, restated in a form comparable with that of Professor Young, these conclusions would be:

1. If depreciation charges have not been required by public authority, it cannot be assumed that the proprietors of a large public service undertaking should have

accumulated a reserve for accrued depreciation or a depreciation fund of the same amount.

2. The absence of such a reserve means, however, that the value of the physical plant is by so much overstated, and indicates that, unless an equivalent amount of earnings has been applied to extensions of plant without "charging to capital" or has been invested in other property or has been expended in building up immaterial assets which do not appear on the balance sheet, part of the principal of the investment has, whether intentionally or otherwise, been returned to the proprietors.

3. It is proper, just, and expedient that in valuation for purposes of rate control account should be taken of depreciation of the physical plant, regardless of the need or lack of need for a depreciation fund, and regardless of the actual or hypothetical expectations of the proprietors as to the necessity of reckoning with depreciation by means of the depreciation reserve or otherwise.

JOSEPH S. DAVIS.

HARVARD UNIVERSITY.

A REPLY

I had not expected that my conclusions on the relation of depreciation and rate control, challenging generally received opinion as they do, would meet with easy acceptance. I am grateful to Mr. Davis for having cogently formulated some of the objections — the more weighty ones, I imagine — that may seem to count against my thesis. The right solution of the problem is a matter of great practical consequence, and discussion which, like Mr. Davis's, helps to define and narrow the issues, contributes toward that end.

We are agreed upon some points. It is admitted that it is not necessary for undertakings with large and varied properties to accumulate a "reserve for accrued depreciation" in order to provide for replacements. It is further admitted that in the valuation of the properties of such companies for the purpose of rate control the usual deduction for depreciation cannot be justified by appealing to the alleged necessity of providing in advance for renewals. But it is upon precisely that fallacious ground, and in most cases upon that ground only, that commissions and courts have based their rulings that depreciation must be deducted in such valuations. Are these findings to be approved in spite of their admittedly faulty premises? At this point Mr. Davis and myself part company. I see no principles on which the deduction for depreciation can be definitely justified in the case of the valuation of the properties of a company which has not accumulated a depreciation reserve. Mr. Davis thinks that there are such principles, even tho overlooked by commissions and courts, and attempts to formulate them.

But before proceeding to the discussion of the real issue, I must first enter a protest against Mr. Davis's interpretation of part of my argument. In view of the fact (on which we agree) that when annual replacement needs are fairly uniform there is no need to provide a fund for them in advance, I spoke of the reserve for accrued depreciation as "useless for replacement purposes." Mr. Davis fears that I have confused the depreciation reserve with "a thing essentially different, — namely a segregated fund of particular assets, cash, securities, or what not, which may be drawn upon to meet ordinary or extraordinary repairs, renewals, and replacements." Now, I have no fault to find with the exposition of elementary accounting practice which Mr. Davis

introduces at this point. But I cannot understand how Mr. Davis has convinced himself that I fell into the error in question. A reserve of the kind under discussion is built up by credits of depreciation accruals and depleted by debits for replacements. Itself a liability account, its effect is to *hold* a corresponding amount of (unspecified) assets in the business and to prevent their distribution except at the expense of an equivalent diminution in stated liabilities. Only as replacements are made are these assets released. And so far as the reserve is permanent such assets cannot be released in exchange for replacements. To say that the reserve "cannot be used for replacement purposes" avoids much circumlocution and should mislead no one. To use a depreciation reserve for replacements is just as commonplace a feat as to "pay dividends out of profits."

One assertion which Mr. Davis makes in this connection is, I think, a little too strongly put. He says: "The depreciation reserve proper has nothing whatever to do with ability to make expenditures for replacements or renewals, regular or irregular, except in so far as it may insure more comprehensive knowledge of the plant and thereby facilitate intelligent prevision of future needs for such purposes."

Now, of course, the existence of a depreciation reserve does not insure the existence of a body of "idle cash" or of easily convertible assets held against possible replacement needs. But it does make it certain that all needed replacements *up to the amount of the reserve* may be made without either cutting into surplus or increasing the deficit for the year. In practice the reserve for the depreciation of large and varied properties becomes much larger than can be "used" in this way for replacements, and to this extent is "unnecessary" for replacement purposes.

I must repeat a statement which Mr. Davis quotes from my paper: "Altho no investment of a separate depreciation fund is required [by the Interstate Commerce Commission], yet the writing down of the capital assets by the amount of the 'accrued depreciation' means in the long run either that other assets have to be larger in amount than they otherwise would have been or that liabilities have to be smaller. Usually the growth of the reserve for accrued depreciation means in practice that additional permanent investments are being made out of earnings." This statement is, I think, both accurate and perfectly general. It covers the three methods of handling the matter which Mr. Davis particularizes.

Mr. Davis probes much deeper, it seems to me, when he questions my use of the term "productive efficiency." My argument made some use of the assumption that a properly maintained plant in a state of normal depreciation would yet be in a condition of substantially unimpaired productive efficiency. Mr. Davis formulates his objection to this in two ways. In the first place, he suggests, the value of a plant depends upon its *store* of productive efficiency, and this involves the aggregate expectation of life of the various parts of the plant. This store of productive efficiency is less for a normally depreciated plant than for a new one. In the second place, productive efficiency, adequately interpreted, "must have reference to the relation between the output and the total cost of producing it." When renewals have reached their normal level their annual cost will be greater than in a new plant. A plant requiring larger annual maintenance expenditures per unit of product than a new plant would (in the immediate future) cannot properly be said to be in a state of unimpaired productive efficiency.

The facts in the case are, of course, quite as Mr. Davis suggests. And very likely his use of the term "productive efficiency" is better than mine. Taking all the factors in the situation into account the productive efficiency of a new plant is more than that of an older one. My statement, it will be observed, was carefully qualified. The productive efficiency of an old plant, *properly maintained*, is usually equal to that of a new one similarly constituted. That is, from the factors which may be said really to determine productive efficiency I put aside maintenance and made of it an independently given magnitude. But my argument took full account of the fact that replacement costs are lower during the early years of a plant's life, before it has reached a state of normal average depreciation. Mr. Davis means one thing by "productive efficiency," while I mean another. But we see the same facts.

If the difference between us at this point were purely verbal, — if Mr. Davis merely preferred to give a name to A, B, and C which I had used for A and B, — it would hardly be profitable to pursue the matter further. But to Mr. Davis the higher operating costs of the "depreciated" plant or its smaller store of productive life (both formulations come to the same thing) is a sufficient reason for reducing its valuation for rate regulation. His conclusion depends, however, upon a point of view which I believe to be untenable. It involves, more particularly, a questionable theory of the general nature and meaning of public valuation.

"The relative values of different capital goods," says Mr. Davis, "are determined by the relative amounts of productive power they contain." And he believes that "this productive power is the normal and proper criterion of the value of the physical plant, as for any unit or group of capital goods." With certain minor qualifi-

cations I should concede this, if the "value" wanted were selling value in a supposedly open market. Under certain conditions of expressed or implicit contract with the government, relative productive efficiency (in Mr. Davis's inclusive use of the term) might properly be the dominating criterion of the price to be paid by the government in taking over a public service plant. But valuation for rate control is a very different matter.

There is no better word than value to denote the goal sought in the "valuation" of public service properties. It has the necessary amount of elasticity and it gives the proper suggestion of an ethical element in the problem, — of justice to be attained and apportioned. But it is value for a particular purpose; not the market value of the economists, nor value even as defined in President Hadley's well-considered phrase, "what price ought to be," but value in the special sense of a capital sum on which a fair rate of return is to be conceded. The word value is here used as setting a problem, not as solving one. And one cannot safely attempt to solve the problem by applying principles derived from one specific use of the word. "Value" is nothing to conjure with. It has to be carefully sought.

No commission or court has ever given a set of hard and fast rules by which we might definitely determine the value it would impute to a particular plant. But we do know that no such body has ever made productive power or future earning capacity the fundamental criterion in such matters. Nor have commissions or courts attempted to make value a Janus-faced thing, looking both to the future and the past. Not that forward-looking considerations always have been thrown aside, but rather that emphasis has been placed on the retrospective view. Cost, investment, sacrifice, — these are the controlling factors. Otherwise such items as

"the cost of establishing the business," "interest during construction," and the like, become unintelligible. I cannot ask for space to develop this contention at this time—it would necessitate a review of the whole general theory of valuation—but its soundness will be admitted by all conversant with the matter. What I called the "investment entitled to a return" may not be the only factor in valuation, but it is easily the dominant one.

A possible rejoinder to all this is that the appeal to authority is inconclusive when it comes from one who is questioning the soundness of the findings of that same authority in one very important detail. But altho I believe that my thesis might derive convincing supports from general considerations of equity, the matter cannot now be pursued that far. It is sufficient to show that the treatment of the depreciation problem by courts and commissions has been inconsistent with the general principles of valuation which they themselves have adopted.

If investment is the ruling factor, Mr. Davis's emphasis upon the "store of productive efficiency" is misplaced. The question is not whether a plant in a state of normal depreciation is as "valuable" for productive purposes as a new one. It is merely whether there is a reasonable presumption that the lower operating costs in the first years of a plant which does not accumulate a depreciation reserve involve a virtual return of part of the investment to its proprietors. I see no way of getting at the matter except by weighing the probability that these lower operating expenses were taken into account in determining the amount of the investment and the level of rates.

Mr. Davis holds that "it is not safe to presume that if an allowance for depreciation had been required from the outset investments would not have been made or

would have been smaller." But is it safe to presume that such a requirement would have made no difference to investors? There is, of course, no evidence which directly bears on this point. But there is food for thought in some statistics gathered in 1897 and 1898 by the Commissioner of Labor.¹ For each of eighteen groups in which 375 privately-owned waterworks were classified (on the basis of size) it appeared that the average cost of production per unit of product (including an allowance for interest) was more than the average price charged for the water sold. A similar condition was found in seven of the eleven groups into which 344 privately-owned gas plants were classified.² "The explanation of these results," says the editor of the tables, "may be found in the fact that depreciation, which is here included in the cost of production, is, as a rule, not considered by the plants themselves as an actual charge against cost, and that prices are consequently based on cost exclusive of this element."

That these figures are accurate in detail is not to be expected. But the general conclusion to which they point seems to me unmistakable. For many years most public service companies failed to charge to operating costs all of the items which, under present rulings, they are entitled to charge. But their policy was in line with what was current business practice and found support in court decisions. Part, at least, of the immediate saving went to the public in the form of larger facilities or lower rates. And yet we are asked lightly to assume that all of it went back into the pockets of the proprietors.

Because a property administered with a view to continuous operation has reached that normal state where

¹ Water, Gas, and Electric-Light Plants under Private and Municipal Ownership Fourteenth Annual Report of the Commissioner of Labor (1899). See especially pp. 42, 43, 396, 397.

² Comparable figures were not given for electric-light plants.

it is about "half worn out," it does not follow that half of the investment, or any part of it, even, has been returned to the stockholders — and that whether their profits have been high or low. Mr. Davis's adherence to the necessarily arbitrary categories of accounting seems to blind him to this simple fact. When he says that to write down the values of present properties for past depreciation involves "no regulation of past actions or profits" he fails to weigh the real effect of this procedure upon a company which made its investment and adjusted its whole business policy in accordance with the admittedly reasonable supposition that operating expenses need not be charged with any burden for the upkeep of capital beyond the cost of proper repairs and renewals. To write down the properties of such a company for depreciation is to adjudge that past profits have contained or should have contained an element representing the return of part of the investment. And when he goes so far as to say, "the investors are not required to disgorge the sums they received in the false guise of profits; they are not required to return the profits actually secured for years when rates were allowed to remain at a level to yield normal income on a capital sum higher than the actual investment," he openly begs the whole question at issue.

Mr. Davis raises the problem of the proper valuation of two similar plants, one of which has regularly charged depreciation to operating expenses, while the other has not. The answer is, of course, that there is a reasonable presumption that one plant has adjusted its investment, its service, and its rates to a higher scale of operating expenses than the other. That is, there is a presumption that one company has collected or planned to collect in rates enough to repay part of its investment. Depreciation might fairly be deducted from the valua-

tion of one, but not from that of the other. The problem is, of course, largely hypothetical. It could not arise in the case of railroads, and but infrequently in that of public utilities.

Let me repeat again that the general question of the justification of the deduction for depreciation is one to which a categorical answer is impossible. The concrete facts in the history of a business do not fall easily into the rigid concepts of modern accounting. Viewed retrospectively, there is no sharp line between principal and interest, between investment and return. Money is expended in building a plant. More money is expended in operating it. All proper renewals are provided for in operating expenses. For the period in question, the present accounting scheme with its regular charges for depreciation is neither compulsory nor in customary use. An annual money income is received, in excess of operating expenditures. How much shall be called net profit? How much shall be counted as repayment of principal? Is there any definite reason to hold that any part of the investment has been re-pocketed? The question itself is an artificial one, forced upon us as part of the practical problem of regulation. There is, of course, a doubt to be resolved. But I have tried to show that there is a *reasonable presumption* that under the conditions stated it would be unjust to refuse to allow the company to charge rates that would give a fair return on the undepreciated value of its properties.

Mr. Davis's criticism misses the mark because it fails to deal with the fundamental ground on which I based my conclusion that there is such a general presumption. I see no reason to modify that conclusion.

ALLYN A. YOUNG.

CORNELL UNIVERSITY.

A REJOINDER

I REGRET to have misconstrued Professor Young's language respecting the uselessness of the depreciation reserve. I think I am right, however, in crediting him with holding that to accumulate such a reserve needlessly keeps in the business assets which might be distributed to the stockholders, and that the reserve is used for replacements and is useless if it will at no time be entirely exhausted by replacements. Such a view, I am clear, involves an erroneous conception of this reserve. Assuming that depreciation of a physical plant is an inescapable economic fact, despite the utmost assiduity in keeping the plant in proper working condition and regardless of circumstances or methods of taking the fact into account, a reserve for accrued depreciation which approximates the actual depreciation is, I believe, corresponded to by no real assets and does not represent "an additional, permanent, and compulsory investment in the business to take the place of the amount of the investment written off for depreciation" (p. 648). It is simply an accounting device to measure the amount by which the value figure for plant, on the balance sheet, exceeds the actual value, as nearly as the excess can be estimated. Tho a "liability account" in the sense of being a credit item, it is a mere "offset," a "negative reserve," and is to be sharply distinguished from those reserves which are segregated parts of the surplus and *are* corresponded to by equivalent amounts of specified or unspecified assets, in reality as well as on the balance sheet; just as a deficit, often listed among the assets, is to be sharply distinguished from items which represent actual assets. Such a reserve is merely a record of fact, altho, since the fact — the amount of depreciation — cannot be ascertained

with precision, the record is, like many records, only an approximation to the truth. And Professor Young seems to me to argue beside the point when he endeavors to show "the fallacy in the view that the 'reserve for accrued depreciation' is a necessary record of fact," by pointing out that replacement requirements do not necessitate an advance accumulation of a "fund" that will amount to much more than the annual cost of such replacements (pp. 650-651). As I pointed out in my criticism, the keeping of such a reserve does not hold in the business assets which might otherwise be distributed to stockholders, tho by preventing liquidated capital from masquerading as profits it may restrict *ordinary* dividends. The reserve is typically and properly reduced when property is retired (by the accrued depreciation on the item retired), the reduction going to offset the writing down of the plant account by the cost of the property retired. Far from releasing assets for distribution to stockholders, the making of replacements involves locking up, in more or less fixed capital, liquid assets already in the business or brought into the business for the purpose. The ability to make replacements depends on the amount of such liquid assets available or obtainable; it is less in times of financial depression than in other times, it is greater for companies which make a policy of keeping against such contingencies an amount of liquid assets largely in excess of ordinary needs. The proper keeping of this reserve account does indeed eliminate from the profit and loss account all variations due to the circumstance that replacements are not even normally made with entire regularity. But I see no reason to modify my conclusion that the ability to make replacements or renewals is not affected by the keeping of this account. Granted that the reserve for accrued depreciation will never be "used up" as replacements are made, what of it?

This matter is, I believe, intimately related to the question of impairment of investment and the reality of stated profits. If a large and varied physical plant, like each of its several elements, actually depreciates and the reserve for accrued depreciation represents no real assets, figures showing the total outlays for the present plant cannot correctly represent the present amount of the investment in it; and, if a reserve for accrued depreciation is lacking or inadequate, any surplus shown is in part spurious — corresponded to by no real assets in the business — while if no surplus is shown, something in addition to genuine profits has been distributed to stockholders, or else losses have directly impaired the investment. I had understood from his original article that Professor Young would deny the depreciation and maintain that, provided repairs and replacements were made as needed to keep the plant in good working order, the investment "in every real sense" remained intact (p. 651). He now admits, however, comparing an old plant with a new one of similar make-up, (1) that the older embodies a smaller store of productive power,¹ (2) that outlays for needed repairs and replacements will be larger for the old than for the new (till the new one has reached the stage of normal average depreciation), (3) that accordingly, in an important sense, if not in the sense he prefers, the productive efficiency of the new one is greater,² and (4) that whether sold at forced sale or changing hands as a going concern in good condition selling prices would be different. Perhaps I am safe in assuming, therefore, that we agree that, from most standpoints, the present

¹ At two points in his reply (p. 382), Professor Young imputes to me the use of "productive efficiency" where my term was actually "productive power."

² Cf. also the statement in his original article (p. 653): "In the absence of such a reserve net profits for the time being would of course have been higher than if a reserve had been accumulated."

amount of the investment is not indicated by the undepreciated cost. I had further understood him to say that since, "in the case of a permanent industrial investment for profit," there is no *clear* line between profits and repayment of principal, we must rely upon "the expectations, plans, and estimates of the proprietors in order to estimate what may properly be called net income" (p. 652). For my part I cannot see that the question of fact, — what were profits and what were not? — is affected at all by what the proprietors may have thought. Calling a sum "profits" does not make it so, whether the "caller" be promoter, honest investor, or accountant. A line exists *in fact* between profits and liquidated capital, altho there is no automatic earmarking of the elements of gross income; and a major function of the accountant, with all his "arbitrary categories," is to make the line displayed on financial statements reflect as accurately as possible the invisible line which exists in fact. But if Professor Young sees these facts as I do, much of my criticism was beside the point, except for readers who, like myself, misunderstood his language.

Suppose, then, that he is to be interpreted throughout as implying the phrase "for purposes of rate regulation," and, conducting his argument for this purpose alone, he would argue merely that depreciation should be *disregarded* if proprietors have not set up a reserve for it, calculated profits should be *treated* as true profits, stated surplus as true surplus, and the investment should be *rated* at cost, not at cost-less-depreciation. This would be to separate sharply the question of justice from the question of economic fact, — questions which I have thought Professor Young tended to confuse.

Neglecting for the moment the considerations of justice, the expediency of such action is gravely to be

questioned. So far at least as concerns the depreciable physical plant (and this element alone is under discussion), there would seem to be distinct disadvantages in arriving at four different figures for its value in a going concern, according to whether the valuation has reference to transfer between private parties, purchase by government, regulation of security issues, or regulation of rates. The "fair value" of the plant of a going concern should mean in each case, I believe, the nearest possible approximation, fixed by honest, intelligent, careful appraisal, to what its rating would be in a voluntary, unforced sale of the entire concern in a period of normal business.¹ Any other policy certainly makes against consistent action, and in the long run, I believe, for injustice.² If justice requires, it is not difficult to make due allowance in other ways for losses, abnormally low real profits, or what not.³

The problem of justice is an intricate one. I am ready to admit that cases may be found where, tho the plant investment is actually less than its net book value, well-managed companies have secured no more than a normal return because of reliance upon an assumption which, however erroneous, was fostered by court decisions and prevailing business standards; and that real injustice may be done by disregarding these facts entirely when rates are regulated. Yet I cannot think it safe now to presume that uncontrolled public service

¹ The "break-up value" or value with "reference to a possible insolvency" would of course be different; but when we are dealing with a going concern such a value is potential, hypothetical, not actual, present, and need not be considered.

² Here is implied, obviously, a criticism of certain court and commission decisions. Since, however, cost-of-reproduction-less-depreciation is a not unusual "basis" for valuing a physical plant, and since this would at least approximate the "fair value" as I regard it, my view is by no means revolutionary.

³ For example, the amount of the loss for which justice is held to require reimbursement may be made a deferred charge to profit and loss, and for the time being rates may be fixed which yield beyond the normal return on the present investment enough gradually to reduce this debit. Less satisfactorily, the sum may be made an independent item in the total valuation.

companies have treated the public better than if a requirement to keep depreciation accounts had been in force. If business men would recognize that the "sale value" of an old plant is less than for a new one similarly constituted, is it certain that they would think that the two represent the same amount of investment? Or that they would not calculate upon large returns in early years which could be used in part for extensions without increasing the capital stock? Or that they would expect a normal rate of profit measured on the gross outlay for plant? One has been accustomed to believe, moreover, that before public regulation came into vogue the principle of monopoly value held large sway in public utility properties; and if monopolistic proprietors really fixed lower rates because they had not learned to allow for depreciation, their action is not in accord with what the usual expositions of economic theory lead us to expect. Certainly common report of stockwatering episodes and of fortunes made in this field does not predispose one to look upon the investors as having been but barely remunerated for their investment.

On the other hand, it is equally difficult to argue convincingly that the lack of the depreciation requirement has made no difference to investors. Abstract reasoning, it seems to me, cannot establish either this presumption or the other. The facts are not clear. Evidence should be presented to show that, in the main, properly managed public service companies have secured (but not necessarily divided) less than a normal rate of profit on their investment, properly valued. Professor Young offers only one bit of evidence. And I think he adopts too hastily the interpretation placed by the editor (the late Carroll D. Wright?) upon the data published in the report of the Commissioner of Labor

(1899). No figures for capital stock, surplus, or dividends were shown in that report. The depreciation allowance for the year which was included in cost was a highly arbitrary figure, as a rule merely an estimate by the official who made out the returns; the companies themselves did not use the figure, and a cursory study of the data strongly indicates that the allowance, which figured very heavily in the sum of costs, was a liberal one. But even supposing it to be substantially accurate, its inclusion in the year's costs showed merely that the net profits for that year were less than a normal return on the total outlay (*undepreciated cost*) for construction and improvements. If calculated on cost less accrued depreciation the showing could have been far different. It is significant, it seems to me, that so many companies admitted the fact of depreciation in that year, despite proper repairs and renewals, even tho they did not make a practice of dealing with depreciation in their accounts. Furthermore, another very plausible interpretation may be put upon the fact that, in so many companies, the current revenue did not exceed costs including current depreciation by an amount sufficient to yield, on the undepreciated investment, a rate of return even equal to that paid on its latest bond issue by the cities in which the plants were located. That interpretation is, that the companies did not consider the *gross outlay* on plant to represent the principal of the investment on which they figured their rate of profit. Has it not been true that most companies which have not "booked" depreciation have paid for extensions and improvements out of earnings, and either have not included the cost of these in their figures for plant value, or while so including them have built up a correspondingly large (nominal) surplus? In either case, dividends would be measured on the

original capital, or on capital stock more or less arbitrarily issued, and no obvious figure would show the rate of yield upon what they considered the investment entitled to return. I suspect that many public service companies would be greatly surprised and delighted if rates were revised to yield a "normal return" on the undepreciated outlays on their plant and improvements.

In short, on the question of justice which I now understand him to regard as central, I regard Professor Young's reasoning as still inconclusive, and his recommendation based on that reasoning as still unacceptable.

JOSEPH S. DAVIS.

CONCLUDING COMMENTS

I am sorry to prolong this controversy, but Mr. Davis's rejoinder brings the difference in our views so nearly to a point that I must attempt to complete that task. He still maintains (1) that the existence of a reserve for accrued depreciation has no bearing upon ability of a company to make replacements, and (2) that the market value of a plant is what should be sought in valuation for purposes of rate control.

1. To Mr. Davis the depreciation reserve is merely a record of fact and has no other function, while I am pragmatist enough to insist that the definition of fact must itself hinge upon some specific function or purpose of the reserve. But there is a particular fact of which Mr. Davis would make the depreciation reserve a record, and that is the diminution of the market value of capital assets which results from the shrinkage of their aggregate expectation of life. Mr. Davis would not, I suppose, question the fact that charges for the depreciation of fixed capital were first introduced into

operating costs quite as much to assure provision for future needs as to record the diminution of capital values. Nor do I suppose that he would question the statement that for a long time there was a mistaken notion that in practice these two principles of depreciation came to about the same thing. At any rate, I do not find in standard accounting literature any clear recognition of the fact that the amount of depreciation to be charged on large and varied properties is more or less according as one principle or the other is adopted. And the mistake in question was made by the accounting authorities of the Interstate Commerce Commission in 1907.

The theory of the meaning of the depreciation reserve which Mr. Davis holds is not without support, but it cannot be said to command the unanimous approval of accountants. I do not, however, wish now to question its general appropriateness, and have already said that I see no conclusive reason why public authorities should not compel public service companies to accumulate a reserve against depreciation in market value. But I do object to the assumption that the companies should in every case have accumulated that particular kind of a reserve before the days of regulation.

This does not mean, however, that outside of the group of enterprises where annual replacements can easily be made from annual earnings the existence of such a reserve does not affect ability to make replacements. Mr. Davis holds that the reserve has no such bearing, but it is difficult to believe that he is seriously urging considerations which he thinks of practical consequence. Surely his statement that "the keeping of such a reserve does not hold in the business assets which might otherwise be distributed to stockholders" is quite out of line with the generally candid nature of his

able argument. Wiping out the reserve would increase stated profits by an equivalent amount and this would permit corresponding dividends. That the assets thus released might not be in a form for immediate distribution or conversion is a matter of no significance.

The matter of provision for replacements is entirely similar. So far as any bearing upon the general problem under discussion is concerned, it matters not a whit whether that part of gross earnings which the inclusion of depreciation charges in operating expenses makes unavailable for distribution to stockholders is used in building up a segregated body of quick assets or is put into general additions and betterments. In both cases the general result is that as compared with liabilities (other than the depreciation reserve) resources are larger than they otherwise would have been. In each case retirements can be made without affecting stated profits, and assets, equal in amount to those purchased with earnings set aside on account of depreciation, can be converted for replacements. If these additional assets are not in easily convertible form, extraordinarily large replacements might even necessitate borrowings; but the net effect on the balance sheet would be unchanged. By "ability to make replacements" Mr. Davis merely means the convenience and (within narrow limits) the economy with which replacement needs may be met. But the important thing to a company is the ability to retire old properties and replace them with new without affecting its degree of solvency as shown on the balance sheet. For this purpose it is immaterial whether the property set aside for replacement purposes is segregated or is scattered among the general assets.¹ In this sense every depreciation reserve

¹ "The only question as to the wisdom of this [latter] policy is the question of the availability of the fund, that is, whether in case of need the property could be quickly converted into cash so as to be put to its intended use." — W. M. Cole, *Accounts; their Construction and Interpretation*, p. 89.

is a replacement reserve, and so far as such a reserve represents a permanent accumulation, it is perfectly accurate to say that it is to that extent "useless for replacement purposes."

2. In setting up the market value of the plant (not of the business) as the amount on which a fair return is to be conceded, Mr. Davis frankly accepts the logical consequence of his emphasis on the correlation between physical depreciation and what he prefers to call "productive power." Moreover, he frankly rejects the currently received principles of valuation, and it may be that I should be right in assuming that he assents to my principal thesis, which is that deductions for depreciation in public service valuations are at variance with the general principles on which such valuations now seem to be based.

I cannot now enter into a discussion of the general validity of the market value standard or of the difference its adoption would make in practice. But I must enter an objection to Mr. Davis's identification of market value and investment. One is a matter of current imputation, the other is a matter of the interpretation of historical fact. I should define investment as the aggregate money sum expended in creating or acquiring income-yielding goods or rights, minus whatever part of it may be properly said to have been paid back out of earnings.¹ The investment in a piece of idle real estate is merely the purchase price plus carrying charges; it is that, whether its market value has doubled or diminished since its acquisition. The difficulty in measuring the investment in public service plants

¹ Secondary and derivative meanings of the word are (1) the goods or securities in which the money is invested and (2) the present market value of such goods or securities. Not all the investment in a public service plant may be entitled to a return. The investment entitled to a return must have been appropriate and (within reasonable limits) necessary.

comes from the practical impossibility of drawing a line between return on the investment and return of the investment. I do not think there is so definite a line of demarcation as Mr. Davis holds, except for investments that have been terminated by the distribution of the assets.

For going concerns even modern accounting does not really attempt accurately to define annual profits. Note, for example, the difference in its treatment of unrealized depreciation and unrealized appreciation. Again I submit that where realized depreciation is normally and easily met out of operating expenses and where, with the sanction of law and custom, unrealized depreciation in market value has not been charged to operating expenses, it is by no means a demonstrable fact that this unrealized depreciation has nevertheless been a virtual operating expense. Business policies were not framed with reference to the marketability of capital assets, and were quite properly not so framed.

From Mr. Davis's discussion of the probable actual earnings of public service undertakings in the past I infer that the difference in our views is in large part not so much a matter of logic as of our very different impressions of the degree of success which has attended the average undertaking. I impute no high degree of accuracy to the statistics in the Commissioner of Labor's Report. But I am inclined to give more weight than Mr. Davis does to the explanation offered by the editor of the tables (presumably Mr. G. W. W. Hanger) who must be supposed to have been conversant with the various limitations of the figures. Mr. Davis's alternative explanation may have significance for a few isolated cases, but I do not think that the practice of making improvements out of earnings without charging them to the property account has been so common

among local public service companies as he supposes. It is easy to let one's impression of the general profitability of such undertakings be derived from a few conspicuously successful examples. Looking at the general run of the cases in the reports of state commissions, one's impression of the facts is not far out of line with that given by the Commissioner of Labor's report. The theory of monopoly price has no bearing upon the matter, for that theory assumes the most important variable — the amount of the investment in fixed capital — as a given quantum.

No rules of rate regulation can be applied without making some exceptions. There are cases where the rigid application of any general principles would have to be somewhat tempered, just as there are cases where obvious extortion in the past might properly be taken into account. But for the most part principles for the valuation of properties which were installed under conditions of risk taking, and sometimes of potential destructive competition, must be general in their application. We can neither penalize past success nor make compensation for past failure. Our rules must be shaped with reference to the normal or most numerous cases. I suspect that it is possible that Mr. Davis might agree with me in upholding Mr. Allison's contention if he shared my view as to the degree in which the absence of depreciation charges has tended to increase the ratio of investment to gross earnings in the case of the average public service company.

ALLYN A. YOUNG.

REVIEWS

THE ECONOMIC SYNTHESIS

YEARS ago Loria expressed his dissatisfaction with the generalizations which economists presented as scientific laws. He found them "nothing more than more or less perfect abstractions from transitory phenomena," while that which he sought was "the true economic law, immutable, independent of space and time, and therefore filling all the requirements of a scientific law." The present book on the Economic Synthesis,¹ which he describes as "the complement and the theoretic crown" of all his earlier work, embodies his attempt to break the bonds which have fettered other writers. "The Egyptian statue, rigid in its outlines, and with the hands attached to the knees, was succeeded by the Greek statue, animated and alive." So in the field of economic thought the author believes that beyond the imperfect generalizations of his predecessors there lies "a synthesis scientific and positive in character, at once static and dynamic," and this synthesis he has here endeavored to achieve.

With the author's aim we may have much sympathy. Any one who works in the fields both of economics and history must gain the conviction that, on the one side, the laws of modern economics are partial and very fragmentary statements of the whole truth, while on the other side the facts of history invite generalizations of commanding importance, which promise to give significance to the minor laws. Further, it seems to me that Loria indicates in his introduction the only right way toward a satisfactory interpretation of

¹ The Economic Synthesis. A Study of the Laws of Income. Translated from the Italian by M. Eden Paul. New York, The Macmillan Company, 1914. Pp. xii, 306. \$3.

economic phenomena in their historical development when he presents them not as things technical and apart, but as merely special aspects of a complex whole, and intelligible only in the light of a social theory. The economists may, if they please, rail at the sociologists, but they should recognize that economics is meaningless except as part of a broader social science. So great indeed, is the need of this new science of society, which shall cover things ethical, legal, economic and political, as well as many others, and which shall be neither a collection of "dissicated anthropological anecdotes," to borrow H. G. Wells' description, nor yet a web of vague abstractions, that contributions to it should be heartily encouraged, and should be judged most charitably. This new field is so vast and difficult that pioneers in it must inevitably stray and stumble. Yet the report of every explorer will be of service if it narrates truly what he saw in the undiscovered country, and describes his route accurately, that others may follow it and make it the starting point of fresh investigation. Leaving the metaphor, the scholar who proposes a new theory of social development must be an attentive and impartial observer of fact, and must be logical in his generalization, else he wastes the time of himself and others. Loria appears to me, in his handling both of theory and of history, to fall below a fair standard of professional competence. I shall not attempt to describe or to criticize the book in detail, but shall seek merely to indicate some of the faults which make it not worth the reading.

As Loria's book is devoted to the determination of "The Laws of Income" the reader wants, first of all, to know what the author means by income. A statement on page 29 appears, by its form and emphasis, to be offered as a definition: "the surplus product of coercively associated labor, after there has been subtracted from that product what is required for the reintegration and increase of the subsistence of the laborers and of the technical capital, constitutes *income*." Disregarding for the present that element of the concept which restricts it to a certain form of organization ("coercive association") the feature which strikes one most

is the division of the social product, of which part only is income. The term income, as used by Loria, departs in its very conception from the conventional idea of a colorless mathematical total; it has a social significance, it suggests the contrast between the *beati possidentes* and the rest of us. Now let us admit, candidly, that this brings to the forefront a question which has been of the most absorbing interest in all ages. Let us admit further that this question is one which conventional economics has been and always will be incompetent to solve. Sympathize as we may with Loria in his quest, I do not see how any reader of the book can feel that he has done more than to pass the socialists on a false road, on which they have recently been retracing their steps. He fails, as they have done, to distinguish in history any influences which have fixed the returns to laborers at a point capable of precise objective definition. He does not even attempt to develop a theory of population, to supplement the theory of land monopoly which he has presented in earlier works. His definition itself wavers in the face of facts. Subsistence appears first as "required," "necessary," "bare"; it "is a precise quantity"; then it is "quasi fixed," it "remains unaltered or nearly so"; it "does not of necessity coincide with the strict necessities of life"; we are asked to consider cases in which subsistence diminishes, and other cases in which it increases until it "at length annexes a certain share of income"; finally, we are told of processes, of the first importance in the workings of the economic system, by which subsistence is "artificially" lowered to keep laborers from the land, and by which, in the conflict between subsistence and income, "in the last resort, the arbiter in the contest is income, and [that] subsistence becomes established at that point which gives the maximum permanent income."

"No more logical demand can possibly be made," writes Loria on one of the early pages of his book, "than that we should distinguish clearly between subsistence and income, defining the latter as that part of the net product which remains after subtracting the subsistence of the laborers." The reader, ignorant as yet of the way in which the definition

of subsistence is going to fail him, starts hopefully only to plunge immediately into an obscurity from which he will never emerge. A discussion of the relation of capital and income, which seems academic, leads to the conclusion that "if that part of the product which should go to reintegrate the technical capital and the subsistences, is produced and consumed instead in the form of articles of consumption which, from the nature of the case, are not periodically reproduced, it is not income." The relatively simple concept of income, as the surplus product of coercively associated labor, is modified in many ways. Wealth, whatever may be its origin, which passes to unproductive members of society, such as thieves, gamblers, or beggars, is not income. "The income of the owner of a house which is rented by laborers, the income of a retailer, a money-lender, or a doctor, being the incomes derived from the slender purses of the workers, represent a quantity of wealth taken from subsistence to be transformed into income; in other words it no longer represents a simple transference of pre-existent income from one individual to another, but a positive increment to the total income." Unclaimed inheritances "continue to produce an income, although there is no recipient." Incomes are "deposited in a bank." The quantity of incomes produced in a nation "is determined by the quantity of capital productively employed, by the quantity and productivity of the land, by the quantity of public or private securities issued."

Some of this elaboration of the concept of income is harmless, tho it is relatively useless for the purposes of an author who seeks to rise above the limitations of space and time. On the other hand, the constant shifting in the meaning of such terms as subsistence and income tempts Loria constantly to choose in any particular case the meaning which best suits the purpose of his argument; and makes the book interesting throughout as an example of faulty logic rather than as a contribution to knowledge. It seems a pity that Loria, who in referring to Marx uses the terms surplus-value and income as interchangeable and appears, therefore, to recognize the likeness of his concept to that of the socialists, should take up

the fight which they waged with so much vigor and learning at the very time when they are beginning to recognize defeat.

To this suggestion Loria's reply would doubtless be that his distinction of subsistence and income, while it assumes class divisions in the recent period much like those of socialist theory, rests still on a very different theory of historical development. Loria, namely, distinguishes three forms of income. "In the first of these, *undifferentiated income*, labour is completely conjoined with the ownership of the means of production and with income. In the second, *differentiated income*, labour is completely disjoined from the ownership of the means of production and from income. In the third, *mixed income*, labour may be partially or wholly disjoined from the ownership of the means of production, but it is always partially conjoined with income." The first two forms are dominant and fundamental, occupying in turn almost the whole of the economic field, while the third, in which the worker receives more than a bare living, occupies merely a secondary place, and "is constrained to subordinate its own development to the rules prescribed by that pure form of income which is at the time predominant." Loria, having fortified himself against the attacks of critics, first, by giving such a hazy definition of income as a whole that it is quite impossible in any given case to distinguish it from subsistence, and then, by conceding that laborers do sometimes receive "income" even when they are not owners of the means of production, proceeds in general on the assumption that the class receiving "mixed income," i. e., workers getting something more than a bare living, is negligible. History presents itself to him as the opposition of two extreme forms. If "we study the succession of the forms of income in the course of economic evolution, we see that this evolution begins with undifferentiated income in the primitive communist economy, passes then to differentiated income in the slave-holding system, and that this form of income persists in the subsequent serf-economy, to lead back, however, to undifferentiated income with the rise of the guilds; under the wage system we return to differentiated income, and only

sporadically is this system contrasted by a more evolved form of undifferentiated income, the coöperative economy."

The "primitive communist economy" has long been the happy hunting ground of theorists. Many years have passed, however, since Kemble (1848) launched the theory of the Germanic village community. The period of historical hypothesis was succeeded by one of criticism, exemplified in the work of Fustel de Coulanges, and this again by one of positive construction, in which English and German scholars have taken the lead. It is characteristic of Loria that he cites authors from each one of these periods of historical work, but that he makes them all speak with the same voice, — and the voice is Loria's. Maitland, Seeböhm and Vinogradoff appear among his authorities, but the picture of the early agrarian organization which he presents is sketched in innocent or wilful ignorance of all that these and other scholars have done to give significance to the facts of this stage of economic development. I do not remember to have seen in Loria's book a single mention of the tribal influences to which scholars are now inclined to look for an explanation of the most interesting and most perplexing problems of these "dark ages" of European economic history. That complex combination of political, legal, social and economic elements, which made up the life of early society, as they make up the life of society today, fades away under Loria's treatment into a colorless formula, without a breath of life in it.

Loria supposes that in this early stage of history men worked in isolation, because an ample product could so be secured; but that the growth of population led to a diminution of the per capita product, and forced men finally to associate for greater efficiency. He argues that they would not willingly thus associate themselves, but were constrained to do so by the lack of free land. This coercive association, leading to the appearance of "income" as the author uses the term, involved a class distinction which showed itself in the establishment at different times of slavery or serfdom or the wage system.

Free land is a term to conjure with, if one may play on all the varied meanings of the word "free." In this instance, however, Loria deserves credit for consistency; he says definitely that by free he means gratuitous, and holds to that meaning. In the golden age land could be had for nothing. In the historical period land has not only cost a price, but in general a price beyond the means of the laborer. Loria expounds the matter by the formula $v = r + x$, in which r is the maximum saving of the laborer and v is the value of access to the land. When the recipients of "income" have been threatened by such an invasion of their privileged position as would be involved by the rise of laborers to land-ownership they have either lowered the remuneration of the laborer, and so his savings, r , or have raised v , the value of access to the land, so that v should always exceed r by some difference, x . In this way Loria explains slavery both in the classic world and in the southern states of America, the serfdom of the Middle Ages, and the wage class of recent times.

Neither in this book nor in the *Analisi della Proprietà Capitalista*, in which Loria treats some of these matters in greater detail, has he given the reader any good reason to believe that the course of history was what he imagines it to have been. He commits the sin beyond forgiveness, from the historical standpoint, when he interprets the whole past in terms of our modern system of exchange. One is sometimes tempted to think that in Loria's mind there is no history, but only political economy stretching back over countless centuries of time. From what evidence he can get in the form of money contracts he constructs an image of how society might have economized itself into its present condition, but he fails to recognize that some of the most important material interests of former generations evaded expression in terms of exchange equivalents, and that society has always recognized other interests above the material. To one acquainted with the sources of the early agrarian history of Europe nothing can be more grotesque than the picture of a class of "laborers" endeavoring to "save" enough prop-

erty to "buy" "land." Loria has not presented a single bit of evidence to show that this process was actually in operation, and will of course be unable to do so. The individualism which is assumed throughout the book is itself a product of the last few centuries; and the web of social and political relations which ties the economic man to his place in the group grows more intricate as we trace it back in time, because the further back we go the less conscious and the less rational do we find it. Every student of institutional history recognizes the importance of the economic element in every period, and can prove the play of economic factors both in the rise and in the decline of serfdom. So far, however, from explaining the course of history by this one element, he knows that it is misleading to ascribe to it even a definite place in a hierarchy of history-making forces. It is both cause and effect. It is but one term in a series, meaningless until its relations with the other elements are understood.

One could easily take up the historical parts of Loria's book, page by page, and show his faults of omission and commission; but this task can be deferred until there is more chance than there appears to be at present that he will be taken seriously. The volume should not be dismissed, however, without some further reference to Loria's general philosophy of history. Under the caption "Conclusion — The essential economic law," the reader finds a summary of the argument, which runs somewhat as follows. In the succession of economic systems there is a common element which "must of necessity relate to a series of phenomena universal and constant in character; and since it constitutes the common substance of a series of forms whose equilibrium is essentially unstable, it must contain within itself a factor of immanent instability. Now the process that is common to all the successive economic forms is the association of labour, a constant and invariable phenomenon in all ages; whilst the factor of immanent instability of all the changing social forms is the coercion that disciplines the association of labour. . . . The essential social contradiction can be eliminated, economic equilibrium can be established, only by means of a

profound transformation, affecting not merely the process of distribution, but also the process of production, relieving this latter process from the coercion which has hitherto environed it and restricted its efficiency; in other words by the destruction of the coercive association of labour and its replacement by the free association of labour."

The reader who is conversant with the work that economists, historians and sociologists have done to analyze and interpret the forms of association of labor will be shocked to hear that it is "a constant and invariable phenomenon." He must prepare, however, for an even greater surprise when he approaches the other element in Loria's philosophy, "the factor of immanent instability." The coercive association of labor, with all the evils that Loria imputes to it, was inaugurated by a decline in the fertility of land to a point at which the isolated laborer produced only a bare subsistence, and was constrained to submit to organization. The free association which will mark the coming millennium of coöperative production, "a perfectly stable and indestructible economic form, which finally closes the cycle of social transformations or of economic evolution," will result from a *further* decline in the productivity of the land, which "by rendering the product of isolated labour inferior to the subsistence of the producer, will at length altogether annul the reluctance to the association of labour, and will thus open the way for the institution of the spontaneous association of labour." Surely, since the time when Rousseau wrote of "compelling men to be free," no theorist has been bold enough to publish such nonsense.

CLIVE DAY.

YALE UNIVERSITY.

MARCONCINI'S L' INDUSTRIA DOMESTICA SALARIATA ¹

"The Sweating System" ² and the Minimum Wage Law" should be the English title for this book. And the author's central thought can be condensed within a single sentence. The sweating system, or wage labor in the home, is a great and widely spread evil throughout the world; and no other remedy can be as effective and as prompt as the minimum wage law.

Of the six formal *parts* into which the whole book is divided one (11-38) treats of wage labor in the home in the development of the forms of production, a second (39-154) treats of the extent of wage labor in the home, a third (155-285), of present conditions of wage labor in the home, a fourth (286-325), of the causes of the evils, and a fifth (326-778), of remedies. Then follow (780-847) appendices giving texts of bills, bibliographies, and an elaborate analytical table of contents. Each of the six parts is divided in its turn and with careful discrimination. Thus the part which treats of present conditions has eight chapters, on wages (155-197), living expenses (197-203), hours of labor (203-212), environment of labor (212-224), hygiene in relation to the worker (224-247), hygiene in relation to the workers' families (247-259), hygiene in relation to the public health (259-268), and the question of morals (268-285). And the chapters have their sections, and the sections have their sub-sections. For the most part, all is in admirably logical arrangement.

In a general way, the range and nature of the expositions and discussions of parts two and three, perhaps also of parts one and four, can be taken as matters of course. The author believes wage labor in the home to be an entirely natural form

¹ *L'industria domestica salariata nei rapporti interni e internazionali*. Federico Marconcini. Con prefazione di Achille Loria. Pp. 847. F. Bertinatti, Torino, 1914. L. 12.50.

² In fairness to the author it must be stated that he protests at length (pp. 282-285) against the term, *sweating system*, and that he would insist upon something like an accurate translation of the Italian title. He holds that the sweating system is found out-of-doors, in factories, in mines, "whenever a poorly-paid laborer is forced to work long hours in unsanitary places."

of productive effort in modern industry, not a mere survival or an excrescence; and he believes also that it has elements, or at the least possibilities, of great good. Of course, he finds the sweating system all over the world; and, of course, he finds extremely hard conditions of life for the workers, great distress for the first sufferers and great peril, social as well as physical, for other classes. The causes of these sad and serious conditions are many: simplicity of tasks and consequent lack of training and need for training in the workers, the extreme division of labor, the very sharp competition among employers and among workers, the practices of contracting and sub-contracting, lack of knowledge and conscience in society at large, unwise charity, intemperance, the introduction of machinery, and so on. But chief among the many causes is counted the absence of organization among the workers.

To match and counteract the many causes of evil there are and must be many remedies. Quite in harmony with the teaching as to causes is a steadfast insistence that only the organization of the workers, with its equalization of bargaining or fighting strength as between employer and employed, can be a full and permanent remedy. Other measures, of sanitation, education, coöperation, and so on, through a score or more, have their merits, small or great, probable or certain; but only the organization of the workers can assure a permanent relief.

But home workers are not organized. Repeated and earnest efforts have failed to effect organizations of more than local and trivial importance here and there. The workers are too poor, too ignorant, too weak, too little in touch with one another, too much crushed, too hopeless; and all these unhappy conditions are due, in last analysis, to low wages. Only better pay can cure. Employers will not increase wages voluntarily; they cannot without endangering their own positions. The pressure of consumers and of public opinion can accomplish nothing really worth while. The labor laws of a hundred years have brought no relief to home workers. Only the direct compulsion of the state, through

minimum wage laws, can start and support a train of thoroly effective forces. This is only a temporary expedient, to be abandoned when labor organizations have enabled the workers to safeguard their own interests; but for now it is the only remedy (415), the indispensable basis of all other helpful action (416).

So far the argument has progressed up to the middle of the book. Thenceforward the author passes to the theme nearest his heart, the minimum wage law, for which he continues to plead with unwavering zeal and with never a brief doubt. Having established his fundamental principle, that state action is justified in any form and at any time when it gives fair promise of doing good (371-398), he gives his theory of the minimum wage law (399-417) and takes up in turn thirteen objections commonly advanced (417-448, 483-498). A great deal of attention is given to the proposals of international congresses (448-478) and the demands of various national bodies (498-510). A large part of the book is given to the provisions and the effects of laws passed in America (533-551), Australasia (551-591), the United Kingdom (591-635), Germany (635-660) and minor countries of Europe, and to bills pending in Austria (664-669), Belgium (669-681), France (681-712), and other lands.

Such, in brief summary, is the drift of the book. More or less incidentally the author declares a great many of his convictions. He is highly favorable to organized labor (333), even favoring a temporary compulsion of law to bring about organization among those not inclined to organize spontaneously (480). He is out and out opposed to the abolition of home wage work (520). He has no confidence whatever in the general beneficence of free competition (373); nor will he allow to the employer any natural right to fix the terms of employment in his own interest (332). Every proposed social policy must be judged by its promised results (440), not at all by its conformity to any general principle of assumed validity.

That the trend of the book is liberal, not to say radical, is evident. But there appear not only the commonplaces of

present-day liberalism, the complete rejection of *laissez-faire* (371), the insistence upon the worker's right to a fair human wage (322), and the like: the author pushes into the van of liberalism, with an advocacy of full wages for mothers at child-birth, while released from work (394), the compulsory organisation of labor (478), and other similar proposals, all quite in addition to his chief radicalism, the minimum wage law. He shows also an unusual frankness and vigor in proclaiming the reality of the evil in present conditions and the serious urgency of the need for a remedy (366).

The book, more than most, declares a definite and practical purpose; and in the light of this purpose it should be judged first. Both Professor Loria's laudatory preface and a number of passages in the text show a desire that the work may arouse the interest of students and the public and thus promote wise legislation for the correction of what is wrong and can be cured.

It is to be hoped and to be expected that results of just this sort will be advanced by the publication. For the evil is great. And the book has not a few merits. Unquestionably the broad plan of the work is admirable, quite natural perhaps, but truly admirable in its development of successive topics. And the plan has been developed with industry of amazing extent. Fact is added to fact, and argument follows argument as if from inexhaustible sources. In the descriptive parts one is reminded of the mountains of dark fact which Marx piled up to the condemnation of the early English factory system. The long, long hours of deadening drudgery, the scant pay, the unsanitary surroundings, the meager provisioning, the hunger, disease, and death, the blighting of childhood and youth, of manhood and womanhood, of motherhood, — these are shown with relentless perseverance for country after country. Relentless, too, is the exposure of the weakness or inadequacy of the most favored social remedies, mere palliatives, makeshifts, or worse, in the author's opinion.

The analytical, or theoretical, or argumentative passages, too, show much that is not only good but impressive. The

fundamental argument, for the minimum wage law (399-448), is strong; the chapter on the consumers' responsibilities (317-323) is very fine indeed, with passages which will not slip easily out of the memory. A score of other analyses show keenness of insight and effectiveness in exposition. And at every possible point the writer's deep feeling appears, his warm desire to lighten the woes of the suffering home-workers.

Such a book, on such a subject, cannot fail to make a lasting impression upon any person who reads it through. It cannot fail, therefore, to accomplish some part of its purpose. And yet, taken as it is and all in all, it cannot accomplish much; nor can it have a very favorable reception. There are merits in it, even beyond those already listed. But that is not enough.

Doubtless the book must impress any person who reads it through. But few will ever read it through. As the size and price of Adam Smith's great work were thought to give assurance that its disturbing influence could not be wide, so, but with better confidence, it may be predicted that Marconcini's book has a size and character, if not a price, which must limit its influence. A book of 850 royal octavo pages, and in economics at that, must be attractive indeed, in order to win and hold many readers. And it must be confessed that this big volume is not attractive at all; rather it is unattractive, almost repellant.

Some of the analytical passages run smoothly enough, and some of the descriptive ones, too. Some pages, indeed, almost reach the characteristic Italian ease and lucidity. There are passages at once clear and vigorous (491-492); some are incisive (274-275); others have real beauty, sombre (66) or bright (142). But as literature the great body of the book leaves much to be desired. There are loose and even ungrammatical (348) constructions; the latest neologisms abound, "trade-unionistica" (338), "nullatenenti" (527), "statizzazione" (757) and scores of others of like precarious standing. Rhetorical figures are mixed grotesquely (273, 454) and are even repulsive ("drinkers of human sweat," "bevitori di sudore umano" 313).

All this, perhaps, readers of economics can endure; for we have learned not to expect literary merit in the "literature" of our subject, whatever the language. But even the hardened reader of economics is repelled by the frequent recurrence of passages which are heavy and involved, loaded down with all sorts of explanatory and qualifying parentheses (*e. g.*, 245, 274, 478, 499, 622). The monotonous massing of figures, too, through some two hundred pages, page after page and ever more pages, all about the numbers of the workers, their ages and sexes, in this place and that, their hours and their pay, case after case, and trade after trade, all makes hard reading, such as the general public simply will not do. The author's hope of educating public opinion cannot be realized largely.

But, after all, it is not as literature, in anything like the special sense, that the book appears, but as science and with an appeal to scientists. The very obvious and formal arrangement of topics and sub-topics, the thousands of references in the footnotes, the appendices, in short, the whole form and spirit of the book make the guise of science. But, if it is not good literature, it certainly is not good science. Indeed, pretty nearly every quality which a scientific work ought not to have this book shows, not everywhere nor a few times only, but frequently. Once it is understood that the book is as liberal or radical as previous references have indicated, criticism of most of the specific doctrines may be omitted. Little that is substantially new is brought out. And the patience of readers need not be tried still again here with another set of individual judgments or opinions.

There are not a few analyses which most economists would pronounce either incomplete or positively erroneous, as the statement of the individual laborer's weakness in bargaining (330), the tracing of higher pay for home workers through prices, consumption, and demand for labor (420). Probably, too, the central doctrine is not as strong as the writer supposes. There is rather too much cheerful optimism as to the practical effects of minimum wage laws (487), too much

glossing of difficulties (444), too much disparagement of alternative measures. It is strange that a writer who mentions with approval the Equitable Pioneers of Rochdale (360) and the Scotch Wholesale (361), can yet pronounce coöperation, even consumers' coöperation, futile as a relief for the home workers (364). There is, however, little reason for long delay over particular doctrines; unfortunately, the book is so much lacking in scientific merit that it cannot claim the close attention of scientists.

The writer's spirit, or attitude, is not scientific. "Unheard-of greed" (315), "starvation wages" (*passim*), "simply frightful" (238), "inhuman exploitation" (630) are terms of emotion, just emotion very likely, but not science; yet these and their like abound throughout the book.

Of simple printer's errors there are half a hundred, some of them (173, 466) glaring; while uniformity in capitalising, punctuation, and the use of characters is not maintained. The cravat appears twice in a list of products (116): "esse" is printed for "una" (196). These, in themselves, are perhaps trivial bits of carelessness; but the same carelessness is manifest throughout the book, in matters large as well as small.

What may be nothing more than simple carelessness of expression, marking carelessness of thought, abounds. "To say worker in large industry is to say organized worker" (399). Having made some computation that there are 300,000 home workers in New York City, the author adds that "conditions are the same (*identiche*) in the other cities of North America" (42, n.). Indeed, it may be said to be a common practice of the author to make an extreme statement, perhaps even over-stating the truth, and then add that the same conditions are found elsewhere, or generally (215, 216, 219, 233, etc.). Literally hundreds of incorrect statements might be listed. "It is computed that 65 per cent of the total demand of all the world for arms is satisfied by Belgium" (49). "In the United States the average saving for all laborers reaches \$600" (337, n.). In England since 1864 the conditions of child labor "generally have not improved" (257).

One fault of method is very serious for the scientist. While there are thousands of references to authorities in the footnotes, there are hundreds of statements in the text for which a reader would gladly have a citation of authority but finds none, statements, if true, of deep significance, statements which tax credulity. Statements of this kind even purport to be quoted verbatim (574). It is a common practice to give many references at the beginning of a discussion, even many quite definite references to particular pages, and then give nothing more. For twenty pages (607-627) the origin and provisions of the British Trade Boards Act of 1909 are discussed without a single reference.

Even for the reader braced for the dismal science there is too much massing of fragmentary data and altogether too little attempt to organize the data or to indicate the typical or the specially significant. Many, many pages indeed are filled with data which have no appreciable significance for the author's study. There are 34 pages of exposition and analysis of the Italian census of 1901, ending in the judgment that none of the data are worth much (93-127). Many scores of pages are given to tracing the remotest beginnings of labor legislation, comparing futile suggestions, summarizing debates, and contrasting forgotten proposals. Near a score of different proposals in France alone are compared and criticized point by point.

But let us have an end of these adverse criticisms. They might be continued indefinitely and into even more serious relations. The author's translations pass beyond the reasonable limits of freedom and looseness into real inaccuracies. His statements as to the provisions of laws are sometimes quite erroneous, as, *e. g.*, the Minnesota law (549) and to a less extent other American acts. Such criticisms are never pleasant to make; and certainly they are not pleasant to make against a book into which have been put so noble a spirit and so vast an amount of industry. In particular it is not pleasant, nor is it altogether comfortable, to pass unfavorably upon a book which comes with a warm commendation from Professor Loria, an Italian book at that. Only

because it behooves any man who stands in any way against Professor Loria to make the ground very solid under his feet have I felt justified in making my criticism as specific and as long as it is.

For no purpose, unless indeed for the very determined Italian reformer's local uses, can this large work displace Meny's smaller one, especially in the latter's newer edition, *Le travail à domicile. Ses misères, ses remèdes.*

WILLARD C. FISHER.

MIDDLETOWN, CONN.

NOTES AND MEMORANDA

DEPOSIT GUARANTY IN MISSISSIPPI

It may seem a far cry from the boll weevil to deposit guaranty. But remembering the relation of the chinch bugs in the Missouri Valley to the free silver movement of the nineties, one realizes that an insect may be a cause of financial legislation proposed or enacted. For several years, in Mississippi south of the 33d parallel, the cotton crop had been almost destroyed by the boll weevil. In a typical county, Pike, the normal crop of 25,000 bales fell to 3,600 bales in 1913. In other sections of the state the crop was injured by the army worm, and in the Delta section by overflows from the Mississippi River. At the same time the state banks were running without supervision. The statutes were not entirely lacking in banking provisions, and some of the provisions were in themselves very good, but there was no bank examination and no verification of reports. "In a word," says a Mississippi legislator, "Mississippi state banks were simply chartered by the state and turned loose to do business just as they would."

It was inevitable that many banks should fail. There is no official list of the failures, but a list privately compiled showed 22 bank failures in 1912 and 1913 and 7 more early in 1914. The deposits were not ascertained in all cases; so far as known, they amounted to \$4,600,000. The number of banks reporting to the state auditor fell from 342 in June, 1911, to 306 in June, 1914. National banks increased in number from 31 to 37. There was an attempt in the legislature of 1912 to enact a banking law. It failed largely because the Senate and House could not agree on the method of selecting the bank examiners. A majority of the Senate

wished the examiners to be appointed, while the House wanted them elected by popular vote.

By 1914, it was evident that something must be done. There was a bank failure just as the legislature met, and failures occurred all through the session. Not satisfied now with a bill for safeguards and supervision, many legislators insisted from the start on the guaranty of bank deposits. The Mississippi Bankers Association, with much the same arguments that had been used before the legislatures of other states,¹ opposed the guaranty sections to the end. It is possible that if the members of the Association had foreseen the ultimate adoption of deposit guaranty, they could have made participation optional with the banks, and could have provided for appointive, instead of elective, bank examiners. After a long struggle a bill was finally passed in March and was signed by the governor March 9th.

More striking even than the deposit guaranty plan is that of electing the three bank examiners. It is not quite without precedent, for in some states bank supervision is committed to an elective officer, — the state treasurer, state auditor, or secretary of state. The need of technical qualifications in a bank examiner is self-evident, and therefore only those citizens may become candidates who have passed an examination to determine their fitness. Examinations are given by a Board of Bank Commissioners, composed of a successful banker and business man appointed by the Governor, an experienced lawyer appointed by the Attorney General, and an experienced accountant appointed by the State Auditor. Examinations will be held in March, preceding the general election in November; special examinations will be given at other times on payment of a \$50.00 fee. Applicants will be examined in accounting, theory and practice of banking and the banking laws of Mississippi, and the federal banking law. Every applicant who makes a grade of 75 per cent, is of good moral character, a practical accountant, and has never been the manager of a banking or other business enterprise which

¹ *Quarterly Journal of Economics*, vol. xxiv, pp. 85, 327, reprinted in Sen. Doc. no. 649, 61st Cong., 2d Session, Appendix B.

has failed or liquidated below par during his management, will receive a license to become a candidate for state bank examiner. The license is good for four years. One examiner is to be elected from each of the three supreme court districts.

As no general election would occur soon after the passage of the new law, it was provided that the applicant from each district who made the highest grade in the first examination should be a bank examiner until January, 1916. It is reported that the examination was a good one, and as well calculated as an examination could be to test the knowledge of would-be bank examiners. In one of the questions it was asked what a cashier should do if a prospective borrower, on being asked for security, offered to obtain the endorsement of a solvent oil mill company. Almost all of the applicants are said to have favored discounting the note so endorsed. They were apparently unaware that an accommodation endorsement is beyond the powers of a corporation.

There is no head to the Mississippi bank department. All the bank examiners are of equal authority. The three examiners constitute a board, it is true, and there is a chairman, but his special authority is of the slightest. On the request of the board of directors of any bank for a special examination, he must designate one of the examiners to make such examination. In addition to the regular quarterly meetings of the board of bank examiners the chairman may call other meetings if he deems additional meetings necessary. In these two matters only has he authority beyond his colleagues. Apparently the office of the department will usually be in charge of the board's secretary. The examiners are examiners in fact. They go into the field and themselves inspect the banks. For this they receive \$3,000 per annum each and their expenses for railroad fare, livery hire and hotel bills. Incidentals are not allowed. The examiners even have to pay part of the compensation of any assistants who may be necessary. Subject to a limit of \$150 per month each, assistant examiners will receive \$10.00 per day, of which one-fourth must be paid by the three elected bank examiners personally. The experiment of running a state bank depart-

ment without a head and with examiners chosen by popular vote, who are personally out of pocket if they find it necessary to employ assistants, will be followed with interest.

The general administrative features of the law are in the main satisfactory. Banks are to be examined twice a year. The examiners have power to subpoena witnesses, probably a new provision in banking laws. The authority to close banks for violation of law or impairment of condition is adequate. Private banks of deposit are required to incorporate. It will be remembered that a like provision in the Nebraska bank law was the subject of litigation ending only in the Supreme Court of the United States, where the provision was upheld.¹ New banks may be organized only by persons of "good moral and safe business character." The state has wisely not followed the example of Kansas, which gives to its board power to deny a charter merely because the board may doubt the need of a bank at the contemplated location. The right of the citizen to determine for himself the chances of his business venture, so he be a safe man, is preserved. A scale of minimum capital is adopted, ranging from \$10,000 to \$50,000 according to location. This does not apply to existing banks. The limit on single lines of credit is high, 25 per cent of capital and surplus, as in Missouri, South Dakota and Texas. In Mississippi and South Dakota a bank may go further and discount without any limit business paper owned by its customers. The limit on deposits makes it unlawful for any guaranteed bank to receive deposits continuously for six months in excess of ten times its paid up capital and surplus. This is the Kansas law. Mississippi, however, excepts savings banks from its operation.

The law has some anti-trust sections of highly modern purport. "No person shall be permitted to be a director in more than one bank serving the same incorporated town or city." This does not apply, however, "to savings banks and trust companies operated in connection with commercial banks doing business in the same building." Clearing houses must incorporate, and are forbidden to make rules

¹ Quarterly Journal of Economics, vol. xxviii, p. 70.

concerning exchange rates, discount rates, interest on deposits, collection fees, or restricting competition in any other way.

We come now to the guaranty provisions. These closely follow the Kansas law, with the important exception that guaranty, optional with the banks in Kansas, is obligatory for those of Mississippi. A compromise was reached in Mississippi by which banks need not come within the guaranty provisions of the law until May 15, 1915. This interval has proved invaluable, as examiners have already closed some twenty banks, a number sufficient to have been a menace to the success of the whole scheme if their deposits had been guaranteed at once and automatically.

As in Kansas, the banks must be examined before their deposits are guaranteed. Each bank must deposit bonds or cash with the state to the amount of \$500 for every \$100,000 of deposits eligible to guaranty, less the capital and surplus of the bank. The annual assessment for the guaranty fund is one-twentieth of one per cent of deposits, with the same wise deduction for capital and surplus. Four additional assessments of like amount may be made in any year, if required. Assessments are suspended when the fund reaches \$500,000. Following the Kansas rule, the guaranty fund, like other state funds, is kept in state depository banks, whereas in Nebraska all the assessments, and in Texas 75 per cent of them, are left on deposit with the assessed banks until cash is needed. All deposits not otherwise secured are guaranteed, except those bearing more than 4 per cent interest. These provisions all follow the Kansas law exactly, except that Kansas no longer withholds guaranty because of the interest rate. Both states provide that a maximum rate of interest on deposits may be fixed for each county, and that any bank officer who pays a higher rate "shall be deemed to be reckless, and may be removed from office."

Mississippi has followed the Kansas plan of deferring final payment of depositors of failed banks until assets, including the double liability of stockholders, shall have been realized on so far as is possible. In the meantime 6 per cent certificates are to be issued to the depositors, and dividends are to

be paid as collections are made from the assets. The advantage of this plan is that it prevents the exhaustion of the guaranty fund by one or two failures. Oklahoma, Nebraska and Texas provide that depositors are to be paid immediately after a failure, and for some time the effect of this provision in the first named state was to keep insolvent banks in operation because there was not enough money in the guaranty fund to pay the depositors if the banks were closed.¹ If the Mississippi fund is deficient at the winding up of the affairs of a failed bank, the depositors will receive pro rata payments until subsequent assessments for the guaranty fund come in.

The deposits of Mississippi state banks June 30, 1914, were \$47,359,000. The normal assessment of one-twentieth of one per cent would yield about \$24,000, and five assessments, the maximum number in one year, would yield about \$120,000. There are no statistics to show whether such assessments are in keeping with previous loss experience in Mississippi. However that may be, the writer is of the opinion that the success of any insurance plan is jeopardized by making the initial fund so small.² Fortunately there are as yet few large state banks in Mississippi.

A bill similar to the Mississippi guaranty law was before the Louisiana legislature last winter. It was beaten largely by showing that if any one of the large state banks of New Orleans failed, and if its own assets sufficed to pay 75 per cent of the deposits, the mere interest on the certificates issued for the remaining 25 per cent of deposits would absorb almost all of the assessments for the guaranty fund, leaving no hope of ever paying the principal. After this argument the bill was amended by reducing to 3 per cent the rate on certificates issued in case of failure, but the bill was killed by a vote of nearly two to one.

The guaranty of deposits becomes obligatory on all Mississippi banks on May 15, 1915. There is speculation over the probable attitude of the examiners at that time toward banks of whose condition they are not quite certain. If a

¹ *Quarterly Journal of Economics*, vol. xxviii, p. 77.

² *Ibid.*, vol. xxiv, p. 389, vol. xxviii, p. 99.

bank is closed early in May so that the loss falls on the depositors, when matters might have been smoothed over until the deposits were under guaranty, the examiner who ordered the closing will lose the votes of a certain element of the depositors when he comes up for reelection. Such a possibility illustrates the unwisdom of electing bank examiners, but it is not likely that examiners will toady to the vote of the depositors of failing banks. The certificate placing deposits under guaranty can be issued only after an examination in which the bank is found to be solvent. A record of failures after such examinations might be as serious a campaign handicap as the displeasure of depositors who thought the examiner ought to have helped them pass on their losses to the guaranty fund. "It seems fairly well understood that not every bank applying for a guaranty certificate has received one."¹

It is, of course, too early to draw conclusions from the operation of the law. When the writer last inquired, only one state bank had nationalized, and only two national banks had applied for state charters. There is no rush to get into or out of the state system, but up to November 10, 1914, 67 banks, including some of the largest in the state, had voluntarily taken advantage of the guaranty provisions.² Some of these believe that the guaranty has brought about a growth of deposits by increasing the confidence of the people. The data are yet too few, however, to warrant any conclusion of the sort. The adoption of a guaranty scheme in Mississippi may tend to substantiate, so far as one example goes, the prediction ventured by the writer a year ago, that from time to time more states would probably supplement their service of bank regulation and supervision by enabling, if not requiring, the banks to effect insurance in a state administered fund for the benefit of depositors.

THORNTON COOKE.

FIDELITY TRUST COMPANY,
KANSAS CITY, MO.

¹ *Mississippi Banker*, vol. i, no. 5, p. 9.

² *Ibid.*, vol. i, no. 5, p. 11.

LINCOLN AND THE TARIFF:

A SEQUEL

THE note which I published in the August issue of this Journal on the tariff phrase attributed to Lincoln (getting "both the goods and the money") has stirred discussion, as is natural with anything that concerns the great president. Some further light upon the origin of the phrase has come in consequence. For most of the information which I am now able to give, I am indebted to Mr. Calvin W. Lewis of Brookline, Massachusetts, who first called attention to some of the clues in contributions to the Boston Transcript signed with a pseudonym, and who has since put at my disposal in the most obliging way the results of his inquiries.

It will be remembered that the earliest appearance of the phrase, so far as Mr. Matteson and myself were able to trace it, was in the *American Economist* for June 29, 1894, where it was stated to have been copied from the "*Howard Independent*" of June 9, 1894. The *Howard Independent* proved a puzzle. Mr. Matteson was able to find no trace of any such newspaper, and concluded that it was "a myth, or at least a misprint." The puzzle was not lessened by the failure of the *American Economist* to give any explanation. Our note was brought to the attention of the *Economist*, and some reference has been made in its columns to Lincoln's utterances upon the tariff and to this particular myth; but no attempt was made to verify, or specify further, the source from which the phrase had come. A suspicion could not but arise that the phrase might have been manufactured by the *Economist*, and that the *Howard Independent* was a pretense.

That suspicion proves to be quite without foundation. The *Howard Independent* is not a myth; but, as Mr. Matteson thought possible, it is — a misprint. It appears that there is in Illinois a flourishing town by the name of Harvard, and that a weekly newspaper, the *Harvard Independent*, has been published there for many years. "*Howard Independ-*

ent" was merely a misprint for "Harvard Independent." Moreover, Mr. Lewis, through correspondence with the present editor of the *Harvard Independent*, has learned from him that a search in his files brought to light, in the issue of the date stated, June 9, 1894, the identical phrase. It is there, and the *American Economist* copied it in good faith and with due credit. It is not surprising that the editor of the *American Economist*, after the lapse of twenty years, should have quite forgotten just how he happened on the phrase, and should now find it as difficult to trace as the rest of us. Any suspicion of fabrication on his part was quite without foundation.

But all this only serves to push the inquiry one step further back. Where did the *Harvard Independent* get the phrase?

In the works of Robert G. Ingersoll there is an oration upon Lincoln, which bears the date 1894. In it there is a passage¹ which says that Lincoln was "nominated for the legislature and made a speech," and that this speech was in favor of a protective tariff. Ingersoll refers to it shortly after as Lincoln's first speech. After some remarks about the influence of manufactures in "developing the brain" and "giving wings to the imagination," Ingersoll goes on thus:

"It is better for Americans to purchase from Americans, even if the things purchased cost more.

"If we purchase a ton of steel rails from England for twenty dollars, then we have the rails and England the money. But if we buy a ton of steel rails from an American for twenty-five dollars, then America has the rails and the money both."

It will be observed that this differs in one significant particular from the phrase attributed to Lincoln. The purchase from the American is supposed to be at a higher price than that from the Englishman, — twenty-five dollars instead of twenty dollars; the allegation is that it is more advantageous to buy at home, even at the higher price.

¹ See vol. III, pp. 127-128 of the "Dresden Edition" of the Works of Robert G. Ingersoll (New York, 1900). The oration, or lecture, is also reprinted as an introduction to the seventh volume of *Lincoln's Collected Writings*, edited by Nicolay and Hay (New York, 1905).

There are other grounds for questioning whether this passage, as it appears in print, was the source of our myth. It is not put by Ingersoll in quotation marks, nor is there any intimation or implication that it is taken from Lincoln. Ingersoll mentions steel rails; if he had wished to imply that the language was Lincoln's, he would hardly have selected an article not known in Lincoln's day. A careless reader might possibly infer this to be a paraphrase or quotation from Lincoln; but only a careless one. More important is the circumstance that internal evidence points to its having been published at a later date than that of the passage in the *Harvard Independent* (June, 1894). Immediately following the two paragraphs just quoted Ingersoll goes on: "Judging from the present universal depression and the recent elections, Lincoln, in his first speech, stood on solid rock and was absolutely right." "Recent elections" must refer to the elections of the autumn of 1894. The elections of 1892 were not favorable for the Republicans, but those of 1894 were. It is the latter only to which Ingersoll could have alluded. The date of the oration in its printed form is clearly later than that of the appearance of the phrase in the *Harvard Independent*.

Nevertheless, I am disposed to believe that Ingersoll's oration is the *fons et origo* of the myth. Ingersoll was much in demand as a lecturer and political speaker. For years he orated on the lyceum platform and spoke at political rallies. The oration on Lincoln doubtless was delivered many and many a time before it was put into cold print. The tariff phrase doubtless figured in it, and was likely to stick in the memory of hearers; and it is in this way that the editor of the *Harvard Independent* probably got hold of it. Hearing it as delivered, with the dramatic emphasis of which Ingersoll was a master, he would not fail to remember it, and at the same time would naturally suppose it to be a quotation from Lincoln, not an epigram of the orator's. The circumstance that the difference in price between English and American rails, which is an important part of Ingersoll's version, does not appear in the *Harvard Independent* or in other places, is

entirely consistent with its having been derived from a vaguely memorized report of spoken words.

In sum, the indications now seem to be that Ingersoll's oration, notwithstanding its having appeared in print at a later date than the first published version of the phrase, is nevertheless its source. It is precisely such as Ingersoll might have invented, — epigrammatic and fetching. And yet still further search may show that it was derived by Ingersoll himself from some source still more remote. No evidence has been adduced, or is likely to be, that it originated with Lincoln or was ever used by him.

F. W. TAUSSIG.

HARVARD UNIVERSITY.

BOOKS RECEIVED

- Argentina, Department of Agriculture. *Argentine International Trade: A Few Figures on its Development.* Buenos Aires: Department of Agriculture. 1914. pp. 64.
- Babson, R. W. *The Future of Nations: How Prosperity Must Come.* Boston: Babson Statistical Organization. 1914. pp. 120.
- Bland, A. E., Brown, P. A., and Tawney, R. H. (Editors). *English Economic History: Select Documents.* London: G. Bell & Sons. 1914. pp. 730. 6s.
- Bogart, E. L., and Thompson, C. M. *Exercise Book in Economic History of the United States.* New York: Longmans, Green & Co. 1914. pp. 63. 50 cents.
- Brisco, N. A. *Economics of Efficiency.* New York: Macmillan. 1914. pp. 385. \$1.50.
- Brown, H. G. *International Trade and Exchange: A Study of the Mechanism and Advantages of Commerce.* New York: Macmillan. 1914. pp. 197. \$1.50.
- Coker, F. W. *Readings in Political Philosophy.* New York: Macmillan. 1914. pp. 573.
- Colson, C. *Railway Rates and Traffic.* [Translated from the 3d (1907) edition of the author's "Transports et Tarifs" by L. R. Christie, G. Leedam and C. Travis.] London: G. Bell & Sons. 1914. pp. 195. 3s. 6d.
- Croly, Herbert. *Progressive Democracy.* New York: Macmillan. 1914. pp. 438. \$2.00.
- Ely, R. T. *Property and Contract in Their Relations to the Distribution of Wealth* (2 vols). New York: Macmillan. 1914. pp. 995. \$4.00.
- England, Board of Trade. *Report on Strikes and Lock-Outs and on Conciliation and Arbitration Boards in 1913.* London: Government Printing Office. 1914. pp. 232. 1s. 6d.
- Fantl, Gustav. *Die volkswirtschaftlichen Gefahren des Buchführungskredites und ihre Bekämpfung.* Vienna: Manz. 1914. pp. 31. K. 1. (Reprint from an Austrian Journal.)
- Gesell, G. A. *Minnesota Public Utility Rates; Gas, Electric, Water.* Minneapolis: University of Minnesota. 1914. pp. 254. (Bulletin of the University of Minnesota.)
- Hasskarl, G. C. H. *Modern Problems of the Home, School and Church Solved.* Verona: Privately published. 1914. pp. 191.
- Henry, H. M. *The Police Control of the Slave in South Carolina.* Emory: Privately Printed. 1914. pp. 216.
- Hepburn, A. B. *Artificial Waterways of the World.* New York: Macmillan. 1914. pp. 171. \$1.25. (Revised Edition.)
- Hobson, C. K. *The Export of Capital.* New York: Macmillan. 1914. pp. 264. \$2.00.
- Hoenerig, H. (and others). *Der privatwirtschaftliche Gesichtspunkt in der Sozialökonomie und Jurisprudenz.* Mannheim: J. Ben-

- sheimer. 1914. pp. 212. *M.* 4. (Heft 1 of a new series *Die private Unternehmung*, to be issued by Freiburg professors; this Heft containing five introductory essays.)
- Holdsworth, J. T. *Money and Banking*. New York: D. Appleton. 1914. pp. 439. \$2.00.
- Hollander, J. H. *The Abolition of Poverty*. Boston: Houghton Mifflin Co. 1914. pp. 122. 75 cents.
- Huttmann, Maude A. *The Establishment of Christianity and the Proscription of Paganism*. New York: Longmans, Green & Co. 1914. pp. 257. \$2.00. (Columbia University Studies, Vol. LX, No. 2.)
- Italy, Direzione Generale della Statistica. *Annuario Statistico Italiano* 1913. Roma: G. Bertero & Co. 1914. pp. 466.
- Jastrow, J. *Im Kriegszustand. Die Umformung des öffentlichen Lebens in der ersten Kriegswoche*. Berlin: Georg Reimer. 1914. pp. 215. *M.* 3.60.
- Kendrick, B. J. *The Journal of the Joint Committee of Fifteen on Reconstruction*. New York: Longmans, Green & Co. 1914. pp. 414. (Columbia University Studies, Vol. LXII.)
- Korea, Government-General of Chosen. *Annual Report on Reforms and Progress in Chosen (Korea), 1912-13*. Keijo (Seoul): Japanese Government. 1914. pp. 271.
- Ma, Yin Ch'u. *The Finances of the City of New York*. New York: Longmans, Green & Co. 1914. pp. 312. \$2.50. (Columbia University Studies, Vol. LXI, No. 2.)
- Moore, H. L. *Economic Cycles: Their Law and Cause*. New York: Macmillan. 1914. pp. 149. \$2.00.
- Morse (E. L.), Editor. *Samuel F. B. Morse: His Life and Letters*. Boston: Houghton, Mifflin Co. 1914. 2 vols., pp. 440, 548. \$7.50.
- National Conference on Universities and Public Service. *Proceedings*. Madison: Cantwell Printing Co. 1914. pp. 289.
- New York Department of Labor. *Statistics of Industrial Accidents in 1912 and 1913*. Albany: J. B. Lyon Co. 1914. pp. 175.
- Reeves, Edith. *Care and Education of Crippled Children in the United States*. New York: Survey Associates. 1914. pp. 252. \$2.00. (Russell Sage Foundation.)
- Reid, D. C. *Capital and Profits*. Springfield: Hazard. 1914. pp. 221. \$1.40.
- Secrist, Horace. *An Economic Analysis of the Constitutional Restrictions upon Public Indebtedness in the United States*. Madison: University of Wisconsin. 1914. pp. 131. 40 cents. (Bulletin of the University of Wisconsin, No. 637.)
- Shurtleff, Flavel. *Carrying Out the City Plan: The Practical Application of American Law in the Execution of City Plans*. New York: Survey Associates. 1914. pp. 349. \$2.00. (Russell Sage Foundation.)
- Stalker, Archibald. *Taxation of Land Values in Western Canada*. Montreal: McGill University. 1914. pp. 56. (Thesis for the Degree of Master of Arts.)
- Uruguay. *Anuario Estadístico de la República Oriental del Uruguay, 1909-10*. Montevideo: Juan J. Dornaleche. 1915. pp. 471, cxx.
- Van Kleeck, Mary. *Working Girls in Evening Schools*. New York: Survey Associates. 1914. pp. 252. \$1.50. (Russell Sage Foundation.)

THE
QUARTERLY JOURNAL
OF
ECONOMICS

MAY, 1915

AMERICAN GOLD AND SILVER PRODUCTION
IN THE FIRST HALF OF THE SIXTEENTH
CENTURY

SUMMARY

I. Introduction. Uncritical and exaggerated estimates before the nineteenth century, 434. — The work of Humboldt, Soetbeer and Lexis, 437. — New sources of information, 439. — II. Mexico: earliest accounts of its wealth, 440. — Information used by Soetbeer and Lexis, and conclusions drawn from it, 442. — How the present writer prepared his estimates, 442. — III. Peru: its three divisions, Peru, Upper Peru and Chili, 448. — Nature of the evidence used by Soetbeer and Lexis, and their results, 449. — New evidence and how employed, 452. — Summary, 458. — IV. New Granada: its conquests; the early treasurers of the colony, 458. — Estimates of Soetbeer, Lexis and Restrepo; figures secured by the present writer, 462. — V. West Indies and Tierra Firme, 464. — Early gold-production on the islands and coasts of the Caribbean, 465. — Conclusions, 467. — VI. Résumé of the figures in the preceding sections, 468. — VII. Seville: receipts of the India House, 1503-1560, 469. — Private importations of bullion appropriated by the crown, 470. — The function of Spain as the distributor of the precious metals to the rest of Europe, 471. — Appendix: Monetary values in Spanish America in the first half of the sixteenth century, 475.

I. INTRODUCTION

IN the Europe of the fourteenth and fifteenth centuries, the lack of precious metals to meet the requirements of an expanding mercantile activity came to be felt with increasing severity. The production of bullion

in the few mines worked in Euope was small and uncertain. A variety of circumstances, such as trade with Asia, the transforming of gold and silver into plate and jewels, and the accumulation of ecclesiastical treasure, had so far offset the output from the mines as probably to deplete the stock of money in circulation. It was the crying need of gold which fostered an increase of alchemy toward the end of the Middle Ages. It also prompted the voyages of Columbus and his companions; for one of the principal motives which led to the discovery of the New World was the conviction that by sailing westward might be found Marco Polo's golden land of Zipangu. The precious commodity was not obtained from Zipangu, but in the barbarian empires of Peru and Mexico. And from these distant regions, especially after 1545, a rich stream of precious metals flowed in ever larger quantities to the shores of Spain, and through Spain to the north of Europe. Some conception of the amount of bullion which crossed the seas in the first half-century after Columbus may contribute to an appreciation of the economic problems of that age.

Travellers and historians since Columbus' own time have exercised their imaginations upon the subject of American treasure. The extraordinary character of the remittances of gold, silver, pearls and emeralds gave contemporaries an exaggerated image of the revenues drawn by Spain from her new colonies. To many minds, apparently, they were the very foundation of Spain's political greatness. Early observers, it is true, were as a rule comparatively modest in their assertions; but in the seventeenth and eighteenth centuries Castilian fancy knew no bounds. Peter Martyr wrote in the second decade of the sixteenth century, before the conquests had extended to the mainland: "*Solo de la Española se trae a España todos los años la suma de*

400,000, y á veces de 500,000, ducados, se entiende que eso es, del quinto que viene para el Real Fisco, 80,000, 90,000 y 100,000 castellanos de oro, y á veces mas. . . ."¹ The Venetian ambassador, Gaspar Contarini, in a letter of November, 1525, estimates the income of the crown from the Indies at about 100,000 ducats a year.² Another Venetian, Nicolas Tiepolo, in 1533 remarked that the treasure from America in one year amounted to 150,000 ducats, in another to not more than 50,000. In 1548 Mocenigo gives the entire returns for the crown as about 350,000 ducats,³ and three years later Marino Cavalli raises the figure to 400,000. In 1558 Michel Soriano, ambassador to Philip II at his accession, remembers that people spoke of "millions" of pesos; but in fact the king was receiving only between 400,000 and 500,000 ducats a year. Even in 1561 Andrea Badoero reckons the income from America at not more

¹ Decade III, lib. 8, cap. 3. Decade III was finished in October, 1516, and this chapter was probably written in that year.

The Spanish coins referred to in this paper are the maravedi, castellano, ducat, real, peso de minas and peso fuerte. The usual unit of calculation in Spain was the maravedi, represented in the sixteenth century by a billion coinage of the smallest value and one which was becoming progressively more debased. The castellano, the standard gold coin of Castile before 1497, was one-fiftieth of a marc of gold of a fineness of 23½ carats. As the Castilian marc weighed 230.0675 grams, the castellano contained 4.5534 grams of gold. Its legal value lay between 480 and 490 maravedis. It was superseded in 1497 by the ducat, in imitation of similar coins in Italy and Hungary. The ducat was of the same fineness as the castellano, but 65½ were minted from a marc of gold instead of 50. Its value was fixed at 375 maravedis, and it contained 3.485 grams of gold.

The common silver coin of Spain was the real, issued at a tale of 67 to the marc, and of a fineness of 67/72. As the legal value of a marc of silver after 1497 was 2.378 maravedis, the real was worth 34 maravedis.

The peso de minas was an imaginary unit of value employed in America before the establishment of royal mints. It represented, like the castellano, one-fiftieth of a marc of gold, but of a fineness of only about 22 carats, and its value was presumed to be 450 maravedis. It was equivalent, therefore, to about 4.18 grams of gold.

The peso fuerte was a silver coin of 272 maravedis or eight reals, minted in America after 1537. It became the famous Spanish dollar or "piece of eight" of trade, and in the sixteenth century contained 25.563 grams of silver. The final figures given in this paper are all expressed in pesos fuertes of eight reals.

See also the appendix to this article.

² Ranko, *Die Osmanen*, etc., 3d ed., 1857, p. 399. The actual income was very likely nearer 75,000 ducats.

³ *Ibidem*. The receipts of the Casa de Contratacion in that year were little over 108,000 ducats. The annual average for the decade was 148,000 ducats.

than half a million. Finally, the Spanish historian Gómara wrote in 1552 that in the sixty years the Spaniards took to discover, conquer and explore the American continent, the gold and silver they won thereby was not to be reckoned. It passed sixty million ducats.

Among seventeenth century writers, we find estimates less restrained and judicial. It is true that in 1618 Luis Valle de la Cerda (*Desempeño del Patrimonio Real*, etc., cap. xv) calculates in round figures the amount of gold and silver received from America during the first hundred years at more than 500 millions for the king and private individuals;¹ an estimate which was probably not far from the reality. In 1626, however, Pedro Fernandez Navarrete (*Conservacion de Monarquias*, etc., Disc. xxi) computed the returns up to his time at 1,536 millions;² while the worthy Dr. Sancho de Moncada (*Restoracion Politica*, etc., 1619, Disc. iii, cap. i) in deploring the scarcity of money already noticeable in the peninsula, accepts the statement that the registered income from America for the sixteenth century alone had been two billion pesos.³

It would be fruitless to quote the figures of other and later Spanish publicists. Their estimates for the sixteenth century were generally based upon the word of writers who preceded them, men who possessed little real information, and whose methods were as uncritical as their own. The earliest attempt at a scholarly discussion of the problem we owe to the renowned German scientist and traveler, Alexander von Humboldt. In the first years of the nineteenth century, Humboldt

¹ Colmeiro, *Econ. Polit.*, vol. II, p. 431, note 2. The unit referred to is probably the ducat.

² *Ibidem*. Navarrete was copied by Gil Gonzalez Davila (*Teatro de las Grandezas de la Villa de Madrid*, 1623, pp. 471-472); and later in the century probably by Solorzano Pereira (*De Indiarum Jure*, 1629-30, lib. v, cap. i), and by Nuñez de Castro (*Solo Madrid es Corte*, 1660, lib. i, cap. 13).

³ *Ibidem*.

made his celebrated journey through Mexico and Spanish South America, and published the fruits of his observations in the *Essai Politique sur le Royaume de la Nouvelle Espagne*.¹ The importance of his researches concerning the gold and silver production of America up to 1800 need not be dwelt upon here. In the words of Adolf Soetbeer:

“Humboldt's Schätzungen zeichnen sich dadurch vor allen früheren Aufstellungen aus, dass sie nicht in Bausch und Bogen den gesammten Export ohne Unterscheidung der einzelnen Produktionsländer und Perioden veranschlagen, sondern die wichtigeren Minendistrikte und die verschiedenen Perioden speziell untersuchen . . . Kapitel xi. des ‘Essai Politique’ . . . hat hiermit eine wissenschaftliche Statistik der Edelmetalle eröffnet. Nach dem Erscheinen dieser wahrhaft grundlegenden Abhandlung sind alle früheren Aufstellungen, ohne auch nur noch den Versuch einer Verteidigung zu finden, aufgegeben worden. Die Humboldt'schen Schätzungen erlangten eine so zu sagen klassische Autorität. Die hieraus entnommenen ziffermässigen Angaben über die zu Anfang dieses Jahrhunderts Statt gehabten Verhältnisse der Gold- und Silber-Gewinnung in Amerika so wie über den Gesamtbetrag des bis dahin aus Amerika überhaupt in den Verkehr gebrachten Edelmetalls, sind unzählige Male entweder genau wiederholt, oder mit nur unwesentlichen Änderungen in spätere statistische Vorlagen, welche die Edelmetalle betreffen, übergegangen.”²

In fact it was not until 1879, when Soetbeer, professor at the University of Göttingen, published his own still more thoro-going researches, that the conclusions of Humboldt were at all questioned. Humboldt confined his labors to the gold and silver production of the New World. Soetbeer extended his survey to include the eastern as well as the western hemisphere. He brought together all the scattered information of a trustworthy nature to be found in print, used Humboldt's sources and added others, employed a criticism

¹ 1st ed., Paris, 1811; 2d ed., 1827, referred to in this chapter.

² Soetbeer, Adolf, Edelmetall-Produktion und Werthverhältnisse zwischen Gold und Silber seit der Entdeckung Amerikas bis zur Gegenwart. Gotha, 1879, p. 3.

more searching than his predecessor's, and produced what seemed to be, with some few possible corrections and additions, the final word upon the subject. So it was regarded by his contemporary, Lexis, who in the following year, 1880, suggested some emendations, and materially reduced a few of the American figures for the sixteenth century.¹

Humboldt's table of the importation of gold and silver from America before the year 1600, is as follows:²

PERIOD	ANNUAL AVERAGE	HISTORICAL REMARKS
1492-1500	250,000 pesos	Discovery of the Antilles — gold-washings of Cibao — expedition of Alonso Niño to the coasts of Paria — voyage of Cabral — loss of Bobadilla's fleet.
1500-1545	3,000,000 "	Exploitation of Mexican mines: Tasco, Zultepeque, Pachuca; Peruvian mines: Porco, Carangas, Andacava, Oruro, Carabaya, La Paz — booty of Mexico, Caxamalca, Cusco — conquest of New Granada.
1545-1600	11,000,000 "	Mines of Zacatecas and Guanajuato in Mexico — Cerro de Potosí in Peru — tranquil possession of Chili and interior of Mexico.

With it may be compared Soetbeer's conclusions for the entire production of precious metals in America in the sixteenth century:

PERIOD	ANNUAL AVERAGE
1493-1500	485,000 pesos
1521-1544	2,966,000 "
1545-1560	12,945,000 "
1561-1580	12,003,000 "
1581-1600	17,284,000 "

The total production till 1600 he therefore reckoned at about 865 million pesos.³ Lexis' figure for the same period is only 795 millions.⁴

¹ *Jahrbücher für Nationalökonomie und Statistik*, vol. xxxiv (1880), pp. 361 ff.

² *Essai Polit.*, vol. iii, p. 428.

³ *Op. cit.*, pp. 107-108.

⁴ *Op. cit.*, p. 402.

Since 1880 no one has attempted to review or improve upon the conclusions of these two German scholars. Their calculations have been accepted with the same degree of faith as were those of Humboldt before them. Indeed they had exhausted all the printed and readily accessible sources of information. The only other possible recourse would have been to materials in manuscript, and such materials, even if their existence was known, were far away and had never been examined.

The chief depository of Spanish colonial state papers is in southern Spain, in the city of Seville, — the Archivo de Indias. In it are preserved not only the records of the Casa de Contratacion, but also the original ledgers of the royal treasurers of the various colonies from the very first days of the exploration and conquest. In Seville may be seen the accounts for New Spain (Mexico), dating from September, 1521, only a month after the storming of the ancient Mexican capital. There are the ledgers of the treasurers of Peru from April, 1531, when the royal officials joined Pizarro at the seaport of Tumbez before the historic march to Caxamalca. And there too may be found the records — less complete, it is true, but just as instructive — of the treasurers of the realm of New Granada, of Guatemala, and of the West Indian islands.

From these documents one should be able to secure a juster idea, on the one hand of the quantities of gold and silver produced in the New World, and on the other of the extent of the revenues drawn by the Spanish crown from its American possessions. For the former we must depend upon what we can learn of the amount of the "quinto," or one-fifth of all the produce of the mines, reserved to the crown (sometimes, in certain localities, a "diezmo," or one-tenth); for the latter we have the official figures of the receipts from year to year, of the

Casa de Contratacion, from the foundation of that institution in 1503.

If the papers of the colonial treasurers were as full and carefully itemized for the earliest as they are for later years, we should possess a complete record of all the bullion brought to the royal assay offices to be registered, stamped, and taxed. There are, unfortunately, gaps and omissions in some of the most critical places. The financial papers of the Casa de Contratacion, on the contrary, have come down to us entire. The chief difficulty for the investigator is their voluminousness. The returns from the Indies were classified and detailed with scrupulous care. To analyze them completely so as to discover the time and place of each shipment, would require literally years of labor. Yet only in this way could be ascertained the proportionate amounts contributed to the royal treasury by each colony. I had to be content with figures representing the total yearly receipts, and with a careful examination of only the more important remittances. Even the data so secured enable one to substitute genuine and definite figures for the more or less capricious estimates based upon chance statements of contemporary chroniclers and travelers.¹

II. MEXICO

Mexico was the first of the great gold and silver regions of the American continent to be tapped by the Spaniards, and it remains in the twentieth century, as regards these commodities, the most productive of all

¹ It is in order here to mention a pamphlet published in 1904 by Señor F. de Laiglesia (Real Academia de la Historia): "Los Caudales de Indias en la primera mitad del siglo xvi." Laiglesia obtained his figures from the same records of the Casa de Contratacion to which I have referred. The inaccuracies in the pamphlet are so numerous that to attempt to enumerate them would be profitless. None of his figures or statements can be accepted without verification.

the countries of Spanish America. Notices of the wealth found there by the conquerors, as they appear in the letters of Cortez, and in the narrative of Bernal Diaz del Castillo, have been carefully collected and scrutinized by Humboldt and Soetbeer. According to Cortez' own testimony, the tribute required of Montezuma and his subjects after the entry of the Spaniards into the capital, and the enforced restraint of the Aztec chieftain, amounted to 162,000 pesos of gold and over 500 marcs of silver.¹ The booty captured when the city fell the second time was little over 130,000 pesos, the rest of the plunder being in the form of slaves, embroidered cotton cloths, plumes, jewels, etc.² Bernal Diaz' figures are higher but less reliable. He puts the tribute of Montezuma at 600,000 pesos in gold, and the booty taken with the city at 380,000 pesos.³ The treasure that survived the first rout of the Spaniards, and the royal share of the spoils gained in the final capture of the capital, together with private remittances from Cortez and his followers, were sent to Spain in three caravels in charge of Alonso de Avila and Antonio de Quinoñes; but the famous French corsair, Jean Florin, captured two of the vessels beyond the Azores and diverted the treasure to France.⁴ The caravels carried, besides the unvalued jewels and objets d'art, 31,260 pesos in fine gold and 239 pesos baser gold for the

¹ Cortez' 2d letter, October 30, 1520; Gómara, lib. ii, cap. 46. Before the tribute was melted down, Cortez set aside as a special gift to the emperor, jewels, gold and silver vases, etc., of unusual workmanship, to the value of over 100,000 ducats. Bernal Diaz complains that at least two-thirds of such booty was reserved for the crown, the soldiers receiving only a paltry remainder.

² Cortez' 3d letter, May 15, 1522. His figures are corroborated by the accounts of the first royal treasurer, Julian de Alderete. The royal quinto of the cotton, cacao, slaves, and similar booty captured in the Conquest was valued at 9,440 pesos de oro. (A. de I., 4 — 1 — 1/10, ramo 1.)

³ Hist. Verdadera, caps. 104 and 157.

⁴ According to Gómara, Florin at the same time seized another vessel returning from the Indies with a cargo of 62,000 ducats in gold, 600 marcs of pearls and 2,000 arrobas of sugar.

king, and perhaps twice as much on the account of private individuals.¹ When the news of the loss reached Mexico, Cortez, partly to reimburse the emperor for this miscarriage, partly it may be as a thank offering for his appointment to the governorship of New Spain, hastened to gather all the gold and silver he could find for a second gift to his sovereign. In 1524, 60,000 pesos in gold, the product of the quinto, and a silver cannon weighing 2,450 pounds, were forwarded to Seville in the care of the treasurer, Diego de Soto.²

From the "Coleccion de documentos ineditos, etc." and from the Ternaux-Compans collection,³ Soetbeer assembled what evidence he could find bearing upon the amount of precious metals in Mexico after the conquest. Both he and Lexis, however, base their estimates of the gold and silver production of the country in the first half-century upon a single table of figures published by Ternaux-Compans, entitled: "Envois d'or et d'argent faits par les gouverneurs et vicerois du Mexique . . . jusqu'à l'année, 1587, etc."⁴ This table, which Soetbeer reprints in full, appeared in a French translation without any indication of its source. The original was probably among the papers of the historian Muñoz, to which Ternaux-Compans had access. A Spanish copy, evidently emanating from the same source but

¹ Colecc. de doc., 1st series, vol. xii, p. 352; "Relacion del oro plata é joyas é otras cosas que los procuradores de Nueva España llevan á Su Magestad. Cuyoacan, 19 Mayo, 1522." Cf. also the register of the cargo of one of these caravels, the Sta. Maria de la Rabida (ibidem, p. 253). Bernal Dias says (cap. 159) that the vessels carried 88,000 pesos in gold lingots besides the treasures of Montezuma's "guardarropa."

The figures printed by Soetbeer at the head of column 2, p. 60 (op. cit.), are given an entirely mistaken meaning. They represent, not the quinto shipped to the emperor in 1522, but the receipts of Alderete as treasurer up to that time.

² Cortes' 4th letter, October 15, 1524; Gómara, lib. ii, cap. 64; Bernal Dias, caps. 159 and 170. Soetbeer calls the cannon a "Gefäss."

³ Ternaux-Compans, H., *Recueil des voyages . . . pour servir à l'histoire de la découverte de l'Amerique*, 20 vols. Paris, 1837-41. Vols. x and xvi, "Documents relatifs au Mexique."

⁴ Ibidem, vol. x, p. 451.

carrying the table down to the year 1601, may be seen in the British Museum.¹

Soetbeer seems to have assumed that the figures of the table stood for the ordinary "pesos fuertes" of 8 reals, worth 272 maravedis. Professor Lexis, however, interpreted them as representing "pesos de minas" of 450 maravedis or $13\frac{1}{4}$ reals, and made his calculations upon that basis. The fact that the smaller units were "tomines" and "granos" lent color to his conjecture. On the other hand, the document distinctly stated that the various kinds of pesos were reduced to "pesos d'or comunns." Moreover a comparison of the figures with those given by Cortez in his letters, and with others found in the "Colecc. de doc. ined.," would have raised the suspicion that the smaller peso was meant. The sum given for 1522 is really the treasure carried by the two proctors, Avila and Quiñones, reduced to pesos of 8 reals. The 99,264 pesos, 5 tom., 8 gr. set down for 1524, is exactly the 60,000 pesos of gold mentioned by Cortez as sent to Spain with the silver cannon in that year. Lastly, figures in the ledgers of the treasurers of New Spain entirely confirm this conclusion. The first premise of Professor Lexis' calculations was therefore a mistaken one.²

Professor Lexis also assumes that the sums sent to Spain on the royal account represented in the long run the whole of the quinto of the produce of the mines. That would be reserved with especial care for the crown, the expense of administration in the Indies being met by other revenues. The figures of the table, therefore, multiplied by five or ten as the case might be, would give in round numbers the entire registered pro-

¹ Add. Mss. 13,964, fol. 196 ff.

² Lexis, *op. cit.*, p. 380. For a discussion of units of value in Mexico after the conquest, see appendix to this paper.

duction for those years. Soetbeer, however, introduces other considerations: (1) a part of the quinto was often expended in America; (2) the remittances to Spain included revenues in addition to the quinto; (3) 5 per cent was added to his silver and 10 per cent to his gold figures to represent the bullion unregistered. For these reasons, the estimates he arrives at are somewhat less than those based simply on the data given in the table.

The results obtained by these two scholars are the following: ¹

	1522-44	1545-60	Totals
Soetbeer:			
Gold	3,110,750	1,612,800	4,723,550
Silver	3,086,600	9,433,600	12,520,200
Lexis:			
Gold	8,900,000	4,800,000	13,700,000
Silver	3,180,000	13,720,000	16,900,000

My own estimates for the first forty years after the conquest are based entirely upon the accounts preserved in Seville of the early treasurers of the colony. In those for the first decade the exact amount of the quinto is not always clearly indicated. Inclusive sums are given which cover not only receipts from this source, but other items such as tribute of the Indians, customs dues and judicial fines. I have consequently been compelled, in some cases, to make an approximation based upon a comparison with the figures for other years.

The factor I have used to represent the "royal fifth" during this decade differs from that accepted by Soetbeer and Lexis. According to a remark dropped by the auditor Salmeron in a letter to the emperor of August

¹ The proportionate amounts assigned for gold and silver were purely arbitrary assumptions. No real data were at hand.

Humboldt's figures for Mexico were;

1521-1548	40,500,000 pesos of 8 reals.
1549-1600	104,000,000 pesos of 8 reals.

To these estimates he added one-seventh, or over 14 per cent, to represent bullion unregistered. His results were enormously reduced by both Soetbeer and Lexis.

14, 1531, the crown in the years 1523-29 had collected only one-tenth, thereafter presumably returning to the full legal quinto.¹ But it is evident from the treasury papers that this "diezmo" was not universal. On some bullion one-fifth was paid; on others one-eighth and one-ninth. I have taken one-eighth as a general average.

Apparently by a cedula of September 17, 1548, the quinto on silver was again reduced to a diezmo for six years, but the rule applied only to certain districts. The ordinance was several times renewed till 1572, and then became permanent. Not till 1723 was there a general law for all Mexico. The tax on gold continued to be one-fifth till 1572, when it too was reduced to one-tenth.² For the silver production of Mexico in the years 1548-60, therefore, I have again used the factor 8.

Another consideration to be noted is the "derecho del fundidor ensayador y marcador." In these American records it is clear that from the very beginning the crown charged 1 per cent for the trouble of smelting, assaying and stamping the bullion brought to the assay offices. This 1 per cent was first deducted from the bullion, and then the quinto.³ Charles V in 1552 raised the tax to 1½ per cent;⁴ but 1 per cent continued to be levied in Mexico for some years, perhaps till 1578 when another cedula repeating the order of 1552 was issued. The new rule was not put into force at Potosí till 1585.⁵

¹ Ternaux-Compans, op. cit., vol. xvi, p. 179.

² Gallardo Fernandes, F., *Rentas de la corona de España*, vol. vi, pp. 1-19; Duport, St. Clair, *De la production des metaux precieux au Mexique*. Paris, 1843, p. 161. The original cedula bearing upon this point I have not been able to find, but their import is confirmed by the treasury papers. The general ordinance was not extended to Peru till 1735.

³ The rule was embodied in a general decree by Philip II in 1579. (Recop., lib. viii, tit. 10, ley 19.)

⁴ Recop., lib. iv, tit. 22, ley 13.

⁵ Add. Mss. 13,976, fol. 405 ff. In 1522, the emperor nominated his secretary, Francisco de los Cobos, "fundidor, ensayador y marcador mayor" for all New Spain.

As the combined charge amounted to only 20½ per cent, I have not taken this tax into account in my calculations.

Finally, it is evident from the treasury papers that part of the tribute of the Indians was in the form of gold-dust. Such tribute paid to private "encomenderos" was subject to the "royal fifth,"¹ and is included in the figures for the quinto. Revenue from this source on the crown estates, however, naturally represented, not one-fifth, but the entire yield of the gold-washings. To cover this production I have added to my results, for the first period 10 per cent, for the second 2½ per cent, of the tribute of the Indians.²

The conclusions arrived at are the following:

	1521-44	1545-60	Totals
Gold	5,348,900	343,670	5,692,570
Silver	4,130,170	22,467,110	26,597,280

The entire output of gold and silver had a value of 32,289,850 pesos of 8 reals. Professor Lexis' figure was 30,600,000 pesos; that of Soetbeer, 17,243,750 pesos.

The final result achieved differs little from that of Lexis. This, however, is only an accident, as his estimates are based on a mistaken reading of the Ternaux-Compans table. Had he interpreted the table aright, his totals would have been under twenty millions. His surmise, therefore, that the remittances from New Spain

In 1534 the patent was extended to include Peru. Santa Marta was added in 1535, and the region of Central America in 1538. As "fundidor mayor" Cobos enjoyed the income from the 1 per cent collected for the crown, and after his death the tax continued to be called, the "Cobos." In 1552 an annuity of 3,000,000 maravedis on the produce of this tax was granted to his son and widow. (A. de I., 2-1-220/16; 4-1-1/19, ramo 2; 139-1-7, lib. 13, fol. 64; Patr. 2-5-1, no. 2, ramos 16, 17; Aud. de Lima, 109-7-1. Restrepo, V., Estudio sobre las minas . . . de Colombia. 2d ed. Bogotá, 1888, p. 207.

¹ Recop., lib. viii, tit. 10, leyes 6, 7.

² I have found no evidence that there were any mines in Mexico exploited on the account of the crown. Such is also the testimony of Humboldt.

to Seville represented on an average all of the quinto reserved to the Crown proves to be incorrect.

Furthermore, the proportionate amounts assigned by Lexis for gold and silver were wide of the mark. He far over-estimated the production of gold, and under-estimated that of silver. Soetbeer's approximation for gold was much closer to the truth. Both were unaware how great was the decline in the yield of gold within twenty-five years after the coming of the Spaniards. The production of silver, on the other hand, began earlier and made greater strides than either imagined. The famous silver mines of Zacatecas were not discovered till 1548. Ten years later were opened the deposits at Guanajuato, the richest the world has ever known.¹ But even before 1548 the exploitation of less celebrated mines had vastly augmented the metallic output of the country. The average annual yield in 1540-44 was over three times that of the decade immediately preceding, and was itself almost doubled by the yield of the years 1544-48.

An idea of the variations in the production of gold and silver may be gained from the following table, which summarizes my own conclusions:

AVERAGE ANNUAL PRODUCTION (RECKONED IN MARAVEDIS)

Period	Gold	Silver
Aug., 1524-Nov., 1531	54,945,000	2,335,000
Nov., 1531-July, 1539	72,145,000	47,950,000
Aug., 1539-May, 1544	40,890,000	152,050,000
June, 1544-Dec., 1549	13,495,000	269,140,000
Jan., 1550-Mar., 1553	4,600,000	405,100,000
Mar., 1553-Aug., 1555	2,560,000	507,800,000
Aug., 1555-Jan., 1560	1,100,000	467,475,000

¹ Humboldt, *Essai Polit.*, liv. iv, ch. xi.

III. PERU

When we investigate the gold and silver production of the vice-royalty of Peru and its dependencies, the difference between the figures obtained in Seville and those of Soetbeer and Lexis becomes more striking. The two German scholars made separate estimates for Peru proper (the confines of the present-day republic) and for each of the outlying regions of Upper Peru (Bolivia) and Chili. But in the sixteenth century all three were part of the same vice-royalty, and seem to have been in financial administration dependent upon the royal treasurer at Lima. There are no individual accounts in Seville for Upper Peru or Chili; and in the reports of the precious metals brought back by the great fleets, the gold and silver coming from the Pacific coast of South America is always entered under the rubric "Peru," and not itemized separately for the three districts. The presumption, therefore, is that the receipts of the "Hacienda Real" in Upper Peru and Chili — or at least the quinto — entered into the accounts of the royal treasurer at Lima. And this presumption is borne out by an examination of the accounts themselves.

It is impossible with any assurance of accuracy however, to separate in these ledgers the receipts coming from the three regions. The silver of Potosí and the gold from the vicinity of Cuzco¹ passed through the city of Arequipa for shipment up the coast to Lima; and are noted in the treasurers' books merely as coming via Arequipa, or as "oro y plata que se trae de fuera desta ciudad." It will be necessary, therefore, to compare the results from the figures in the Sevillian archives with the

¹ Doubtless, too, the gold which the conquistadores may have found in Chili.

figures of Soetbeer and of Lexis for Peru, Upper Peru and Chili combined.

For Peru in the sixteenth century, Soetbeer and Lexis had for guidance only the reports of booty secured from the natives by the initial conquerors, and the scattered and often untrustworthy figures of travelers and historians like Cieza de Leon, Zarate, Gómara and Herrera. Their conclusions — which at most could be merest guess-work — differed considerably, Lexis increasing Soetbeer's figures for gold-production and greatly decreasing those for silver. Their results in tabular form are as follows: ¹

PERU			
	1533-44	1545-60	Totals
Soetbeer:			
Gold	3,318,000	1,896,000	5,214,000
Silver ...	13,080,000	30,720,000	43,800,000
Lexis:			
Gold	3,903,600	5,204,800	9,108,400
Silver ...	5,294,000	7,059,000	12,353,000

For the gold-production of Chili there were even less available data than in the case of Peru, and the figures of Soetbeer and Lexis are consequently even more problematical. Lexis accepts the approximation of Soetbeer, which for the years 1545-60, amounted to 12,800,000 pesos.² We have no knowledge of any production of silver in Chili during this period.

For Upper Peru, and especially for the mines of Potosí, more information of a reasonably reliable sort was to be had. There was the testimony of Cieza de Leon, who visited Potosí in 1549, to the effect that the

¹ Soetbeer, *op. cit.*, p. 69; Lexis, *op. cit.*, pp. 397-399. The figures for gold-production are based on the currency standard in Spain in the sixteenth century, which implied a ratio of gold to silver of 1-10.11. The original figures in the works cited are based on the standard of 1879: 1-18.5. I have made the same correction for the gold-production of Chili and Upper Peru.

² Soetbeer, *op. cit.*, p. 82; Lexis, *op. cit.*, p. 400.

quinto of the silver mined in that year amounted to about 120,000 pesos de minas a month (or $1\frac{1}{2}$ millions a year).¹ It was known that over a million ducats were brought to Spain from Peru by the great Jesuit statesman Gasca in 1550, after he had extirpated the unholy brood of the Pizarros — a sum which presumably represented all the funds in the royal chests gathered in the previous four or five years and surviving the chaos of the civil wars. José de Acosta relates that when he was in Peru in 1574, the viceroy Toledo had an estimate prepared of the sums from which the quinto had been collected at Potosí since the opening of the mines in 1545. The report was based for the earliest years on the memory of surviving officials, the books having been lost; and the estimated figure was 76 million pesos de minas.² Finally, there were the reports made to the Spanish crown in 1784 and 1802 by the royal treasurer at Potosí, D. Lamberto de Sierra, of the royalties collected each year since 1556. The earlier of these was used by Humboldt without his being aware, apparently, of its original source. Soetbeer quotes it from Humboldt and also refers to the later report of 1802. Lexis for the first time indicates their common origin. Sierra, in his second report, estimates the average annual yield of the quinto during the first eleven years (1545–55) at 443,000 pesos.

All of these data were used in turn by Humboldt, Soetbeer and Lexis, but with somewhat different results. Humboldt calculated that the average yearly return of the quinto at Potosí during the eleven problematical years was 2,300,000 pesos of 8 reals; which presupposes an annual silver production of 11,500,000 pesos, and a total registered production for the eleven

¹ *Cronica del Peru*, cap. cviii.

² *Hist. Nat. y Moral de las Indias*, lib. iv, cap. 7.

years of 127,500,000 pesos.¹ As he assumed that a fifth of the metal extracted was never registered and taxed, another 32 millions must be added to cover this fraud.

Soetbeer, and Lexis after him, believed that Humboldt's figures were greatly exaggerated. Soetbeer evidently used as the basis of his calculations the estimate of Sierra. Presuming that Sierra meant pesos de minas of $13\frac{1}{2}$ reals, and that in this early period at least half the silver mined was not registered, Soetbeer reckoned the average annual production of silver in Potosí and the rest of Upper Peru at 7,820,000 pesos of 8 reals, the total production for the eleven years at 86 millions.

Lexis, however, makes it clear that Sierra meant pesos fuertes,² and also throws doubts upon the trustworthiness of Sierra's estimate. He prefers to base his computations on the figures secured by Toledo in 1574, as related by Acosta. Assuming that the 76 millions represents the total amount of silver produced from 1545 to 1574,³ and using the official figures furnished by Sierra for the quinto in the years 1556-74, he concludes that the total amount extracted between 1545 and 1555 was about 54 million pesos de minas or about 89 million pesos of 8 reals. This result is so close to the approximation of Soetbeer, 86 millions — tho obtained by so entirely different a method — that Lexis accepts Soetbeer's figure.

For the period 1556-60, Soetbeer and Lexis both make use of the official figures supplied by the treasurer Sierra. As Soetbeer, however, reads Sierra's table in

¹ Humboldt is silent regarding the possible gold-production of Upper Peru.

² The conclusion of Lexis is borne out by a seventeenth century document in the British Museum (Add. Mss. 13,976, fol. 405), which covers the same ground as does Sierra's report up to the year 1640, but with results reckoned in pesos de minas. It is referred to in the text as Echavarria's table.

³ Acosta gives this sum as representing only the silver registered.

pesos de minas, and Lexis in pesos fuertes, and as Soetbeer adds 100 per cent to represent the silver unregistered, and Lexis adds only 50 per cent, the results differ considerably. To these five years Soetbeer gives a total silver production of 34,110,000 pesos fuertes; Lexis arrives at the figure 16,000,000 pesos fuertes.

Neither writer possessed any data regarding the production of gold in Upper Peru in this period, and altho each suggests approximate figures, they are obviously of the most doubtful nature. Soetbeer presumes an annual output of 1,000 kilograms, worth at the sixteenth century ratio, 6,330,000 pesos. Lexis believes the gold production between 1545 and 1800 to have been about 80,000 kilos; which gives us 1,978,000 pesos as the total for the years 1545-60.

The results may be summarized in the following table:

UPPER PERU			
Silver:	1545-55	1556-60	Totals
Soetbeer	86,000,000	34,110,000	120,110,000
Lexis	86,000,000	16,000,000	102,000,000
Gold:	1545-60		
Soetbeer	6,330,000		
Lexis	1,978,000		

My own conclusions rest again entirely upon an examination of the ledgers of the royal treasurers of Peru now in the Sevillan archives. The first treasurer, Alonso Riguelme, began the exercise of his office in April, 1531, when Pizarro and his band were preparing to leave Tumbes for the uplands of the interior. His stewardship came to an end only with his death in May, 1548. His receipts include, therefore, the royal share of the booty at Caxamalca, Cuzco, etc.,¹ the quinto from

¹ The various sixteenth century accounts of the ransom of Atahualpa have been ably reviewed and criticised by Soetbeer and Lexis. They need not again be repeated. Cf. Lexis, *op. cit.*, pp. 392-393; Soetbeer, *op. cit.*, pp. 65-66.

the mines of Peru during the first fifteen years of the colony's existence, and the royal income from Potosí in the three years immediately following the discovery of the famous silver deposits there. The exact amounts accruing from each of these three sources are not made clear, nor is the gold and silver always separated in the accounts. Doubtless during the confusion of the first decade, the books were not kept with the scrupulous regard for detail which is evident in later records. Whereas the tribute of the Indians, judicial fines, cruzada, etc., are entered separately, there are also great sums of gold and silver grouped together as coming from no particular source. The latter, I believe, we may confidently assume represent the royal share of the plunder and of the output of the mines. Only the quinto from Peru for the years 1544 to 1548 is specifically itemized. These sums total 1,183,306 pesos de minas of gold and silver, and 169,119 marcs of silver in bars. Reducing the figures to pesos of 8 reals, we have as the total for the quinto during the years 1531-48, — 3,331,770 pesos, which presumes the entire registered amount of gold and silver to have been about 16,658,850 pesos.

During the decade 1548-57, six treasurers filled the office left vacant by Riguelme's death. In their accounts the quinto collected within their immediate jurisdiction of Peru, and the receipts from the neighborhoods of Cuzco and Potosí, are kept separate. So also are the figures for gold and silver from 1550 onwards. But it is impossible to separate the figures for Potosí from those for Cuzco, except by supposing that all the gold came from Cuzco and all the silver from Potosí. Moreover, there are gaps in the accounts to be filled up. I could find no itemized receipts for the period January, 1551-May, 1552, and the items for 1550 are obviously incomplete.

The results I secured are the following. The quinto collected in Peru from May, 1548 to December, 1550, and from May, 1552 to December, 1557, was 372,968 pesos de minas of gold and assayed silver, and 34,104 pesos of current silver.¹ For the months from January, 1551 to May, 1552 no figures are available, but from an examination of the accounts immediately before and after, 65,000 pesos de minas has been assumed as the income for this period.

The receipts from Cuzco and Potosí from May, 1552 to December, 1557 were 1,700,504 pesos de minas of gold and assayed silver, 21,256 pesos of current silver, 3,299 marcs of silver in bars, and $7\frac{1}{2}$ marcs of base silver. For the four years from May, 1548 to May, 1552, the data are insufficient. I therefore sought an average for these years from other sources. The annual gold production, by reference to figures after 1552, I fixed at about 30,000 pesos de minas or 50,000 pesos of 8 reals. The silver from Potosí I reckoned at about 284,000 pesos de minas or 470,000 pesos of 8 reals and for the following reasons. It is quite likely that the large single item of bar silver in Riguelme's accounts, 169,119 marcs, represents the silver that had come from the royal assay office at Potosí. If this be so, it implies an average annual yield of 276,850 pesos de minas or 458,000 pesos of 8 reals. This figure is very close to Sierra's estimate of 443,000 pesos; and Sierra, in spite of the doubts of Dr. Lexis, probably had access to more information than any of those who have come after. In 1552-57 the receipts from Potosí seem to have amounted to about 1,566,000 pesos de minas, or 284,000 a year.² In Echavarria's table the figures for 1556 and 1557 are

¹ Current silver I have reckoned at a discount of about 12½ per cent.

² I have taken the "plata ensayada" as representing the quinto from Potosí, and seem justified by the result.

278,000 and 289,000 respectively. I consequently fixed the annual average for the years 1548-52 at 284,000. The entire quinto from Cuzco and Potosí during these four years probably yielded, therefore, about 2,080,000 pesos fuertes of 8 reals.

On the basis of the above figures the product of the quinto in the vice-royalty of Peru during the years 1548-57 was in round numbers 5,360,000 pesos fuertes, and the entire registered output of the precious metals was 26,800,000.

As my original intention was to confine myself to the reign of Charles V, I did not carry the examination of the records beyond 1557. So I am forced to make use of an approximate figure for the next three years, 1558-60. The average annual receipts from the sources under consideration, in the twenty-nine months from July, 1555 to December, 1557, were 784,750 pesos of 8 reals. Correcting this figure by reference to the quinto collected in Potosí during 1558-60, I accepted 700,000 pesos fuertes as the likeliest approximate annual income from all the provinces of the vice-royalty. The total registered output for the three years would then be 10,500,000 pesos.

The preceding results may be tabulated as follows:

	QUINTO	GOLD AND SILVER REGISTERED
1531-48	3,331,770	16,658,850
1548-57	5,360,000	26,800,000
1558-60	2,100,000	10,500,000
Totals	10,791,770	53,958,850

To attempt an estimate of the entire amount of the precious metals extracted, one must take into account the factor of fraud. It is the testimony of all writers from Cieza de Leon onwards, that large quantities of the gold and silver produced at the mines, especially at Potosí, never reached the government assay office, but were smuggled away to avoid payment of the royal fifth.

At Potosí before 1560, Soetbeer reckoned this fraud to have embraced a half of the entire output. Lexis would reduce it to one-third. What it amounted to in Peru, neither has attempted to estimate. Yet that it was just as apt to be carried on there as in Upper Peru is obvious, especially in view of the disorganized state of the country during the first twenty-five years of its history.

Any determination of the actual extent of such fraud is in the very nature of the case impossible. The factor employed to represent it can be only the merest conjecture. The criticism of Lexis, that Soetbeer's figure is too high, seems on the whole to be a just one. His own estimate is probably nearer the truth. Yet, during the first few years after the discovery of the silver deposits in the "Cerro," the amount of treasure unregistered must have been very great. It may easily have been 50 per cent or more. I should, therefore, make the following additions to the figures tabulated above.

The whole registered output for the years 1531-48, 16,658,850 pesos, seems to represent about 9,788,000 pesos from Peru and the rest (the 169,119 marcs) from Potosí. The Peruvian figure may be considered as two-thirds of the total output of the mines, the figure for Potosí as only one-half. On this basis, the entire production of the vice-royalty in these years would be about 28,400,000 pesos.

For the years succeeding 1548, I have accepted Lexis' factor of $3/2$. The total figure for this period may then be fixed at about 55,950,000 pesos, and the entire production of the vice-royalty from the conquest to 1560, at 84,350,000.

To discover the proportionate amount of this output contributed by Chili is impossible from the data supplied in the treasury records. An estimate may be

hazarded, however, of the sum extracted from Potosí, and also of the relative amounts of gold and silver in the vice-royalty.

The figures taken to represent the quinto of Potosí from 1545 to 1557 have already been indicated. For the last three years, 1558-60, the official returns of Echavarría have been used. The results are as follows:

QUINTO OF POTOSÍ	
1545-48	830,565 pesos de minas (169,119 marcos)
1548-52	1,136,000 " " "
1552-57	1,566,000 " " "
1558-60	708,945 " " "
Totals	4,241,510 " " "
	or
	7,017,200 " of 8 reals

If we accept these figures and take into account the probable fraud, the total production of Potosí before 1560 must have been about 56 millions.¹ Soetbeer arrived at 120 millions, Lexis at 102 millions.

If Potosí produced 56 millions, 28 millions remain as the production of Peru and Chili between 1533 and 1560. Soetbeer's approximation is nearly 62 millions, that of Lexis about 34 millions. Very likely both writers have vastly exaggerated the gold production of Chili during these pioneer years.

According to the ledgers of the royal treasurers, the gold quinto between May, 1552 and December, 1557, amounted to 188,969 pesos de minas. This presupposes an average annual production, including the amounts unregistered, of about 420,000 pesos fuertes. Lexis assumed for the period 1545-60 an annual output in Peru of about 325,300, and in Upper Peru of about 123,500 pesos. Soetbeer's figures were 118,500 for Peru, and 395,000 for Upper Peru.

¹ About two-thirds of the entire output of the vice-royalty from 1533, and perhaps 80 per cent of the production after 1545.

It seems, therefore, in conclusion, that both Soetbeer and Lexis greatly over-estimated the production of the mines of Potosí during the eleven problematical years, 1545-55. As for the rest of the vice-royalty, Lexis' result is very close to the one based on the treasury papers. The difference may easily be accounted for, as already said, by exaggerated figures assumed for Chili. In regard to the annual gold production, if we again ignore Chili, Lexis seems very near the truth. Soetbeer over-estimates by a fourth or a fifth.

SUMMARY			
	<i>Soetbeer</i>	<i>Lexis</i>	<i>Present Estimate</i>
Peru. 1533-60:			
Gold	5,214,000	9,108,400	} 28,350,000
Silver	43,800,000	12,353,000	
Upper Peru. 1545-60:			
Gold	6,330,000	1,978,000	} 56,000,000
Silver	120,110,000	102,000,000	
Chili:			
Gold	12,800,000	12,800,000	
Totals:			
Gold	24,344,000	23,886,400	
Silver	163,910,000	114,353,000	
Grand Totals ..	188,254,000	138,239,400	84,350,000

IV. NEW GRANADA

Of all the lands in the New World subdued by the Spaniards, that which in the end proved richest in the golden booty sought by the conquerors was the region called by them the Realm of New Granada, today the republic of Colombia. Its exploration and conquest, except along the coasts, came very late, after that of Peru, in the years 1534-38. The initial booty of the Spaniards was less than the ransom of Atahualpa, but the gold extracted from its mines and streams soon surpassed in quantity that produced by Mexico or Peru.

Santa Marta, the first permanent settlement within the limits of the present republic, was founded in 1525 by Rodrigo de Bastidas, one of the earliest explorers of the Caribbean coasts. Eight years later a companion of Bastidas, Pedro de Heredia, laid the first stones of the more famous Cartagena de Indias. But altho vague rumors were current of El Dorado and of wealthy, civilized nations living on the high plateaux of the interior, it did not fall to the lot of either to verify them. Bastidas gathered a few thousand pesos of gold, the slow accumulations of generations of Indians from the sands of the neighboring rivers and creeks; but he lost his life at the hands of envious associates. Expeditions set out from Cartagena into the interior after 1534, and returned with extraordinary tales. In a single Indian cemetery (were we to believe accounts so obviously exaggerated), golden ornaments were collected to the value of 300,000 pesos! Cieza de Leon, who as a lad of nineteen accompanied an expedition in 1537, gave most enthusiastic descriptions of the riches of the country. If the gold of all this region, he says, had belonged to a single prince, his wealth would have been greater than that of the Incas.¹

These gold-hunting raids from Cartagena, however, did not penetrate to the seat of the so-called Chibcha empire. The conquest of New Granada belongs to an obscure lawyer, Gonzalo Jimenez de Quesada, who came to Santa Marta in January, 1536, in the train of a new governor, Pedro de Lugo. Quesada, leaving Santa Marta in the following April with a force of about 500 men and 100 horses, after a year of terrible suffering

¹ *Cronica del Peru*, cap. cxv. Cf., on the other hand, the account of the expedition of George Espira, governor of Venezuela for the Welser. He penetrated into the interior in 1535, with a company of 261 men and 80 horses, and emerged after three years with the loss of half his men and 66 horses. The total amount of treasure secured was 5,518 pesos, which after smelting and refining shrank to less than 1,600 pesos de minas. (Oviedo, lib. xxv, cap. 16.)

from heat and fever, insects and wild animals, emerged on the great plateau of central Colombia with a remnant of 170 followers. Here he found cultivated fields, prosperous towns, and what was of supreme importance to these "white children of the Sun," signs of great wealth in gold and emeralds. From Muqueta, Tunja and Iraca, the three chief pueblos of the Chibcha race, Quesada and his men secured rich plunder; and in August of 1538 they laid the foundations of their new city, Santa Fé de Bogotá.¹

The reports of treasure gathered in the expeditions from Cartagena seem on the face of them to be grossly exaggerated. From Quesada we for the first time obtain trustworthy figures. In a narrative composed later by the great conquistador himself, he tells us that the booty amounted to 191,294 pesos de oro fino and 56,682 pesos de oro bajo;² and these figures are corroborated by the ledgers of the first royal treasurer of the new colony.

As is so well known, Quesada's conquest of the plateau was scarcely complete, when two other companies of white men appeared simultaneously in his vicinity — one led by Sebastian Benalcázar, a captain of Pizarro, who had conquered Quito, and was induced by reports of the rich kingdom of the Chibchas to penetrate still farther north; the other, an expedition of a German named Nicolas Federmann, agent of the great banking house of the Welsers, who had made his way through the forest from Coro in Venezuela, also in search of the fabled El Dorado. Each of the trio claimed priority of discovery. According to one pious story, each had 160 men, one monk and one priest — the coincidence struck

¹ Oviedo, lib. xxvi, cap. 11.

² Each of the soldiers following Quesada received 510 pesos "oro fino," 57 pesos "oro bajo" and 5 emeralds.

their superstitious imaginations, and they promptly came to an agreement. Benalcázar and Federmann made terms with Quesada for ready cash, and the three men returned to Spain in the same ship, to press their respective suits at the Spanish court.

The first of Quesada's party to act as treasurer was Antonio de Lebrixa, one of the most active and intrepid of his captains. Lebrixa returned to Spain with his chief, and his accounts close on May 12, 1539, the day on which Quesada left Bogotá for the coast. Hernando Venegas took his place, and exercised the duties of treasurer till June, 1543, while Hernan Perez de Quesada, brother of the conquistador, was in nominal command of the colony. In the spring of that year arrived a new governor, Alonso Luis de Lugo, a renegade son of Quesada's old associate. Alonso had intrigued successfully against Quesada in Spain, and came out to America with a commission as adelantado of the province. He deprived many of the original conquerors of their lands and Indians, and Venegas lost his post as treasurer. Venegas' successor, Pedro de Briceño, a former treasurer of Santa Marta, was no more fortunate under the tyranny of the governor. The "caxa real" was plundered, and the royal officials imprisoned and maltreated. In March, 1544, the treasurer and contador fled to San Domingo, Briceño leaving powers with Hernando Xuares de Villalobos to act as deputy in his absence.

The Spanish crown in 1545 sent out a commissioner to reduce the country to order, and with him Briceño returned to Bogotá. As a consequence of these dissensions, however, the royal accounts were reduced to a state of entire confusion. Briceño continued to act as treasurer till his death in December, 1552; and in the following month Andres Lopez de Galarra assumed the responsibilities of that office.

The most interesting of the New Granada papers are naturally those of Antonio de Lebrixa, who received the royal moneys at the time of the conquest. Here are some of his items:

Lo perteneciente á su Magestad de quintos de lo que se hubieron y allegaron mientras duró la conquista, lo qual se hizo partes y dividió entre los conquistadores:

	Pesos	Tom.	Gran.
oro fino	38,259	0	0
" bajo	7,457	5	0
" falonia	3,688	0	0
esmeraldas	363 piedras finas		
Quinto de lo que dio el cacique de Bogotá, Agosto, 1538:			
oro fino	720	0	0
" bajo	520	0	0
" falonia	1,200	0	0
esmeraldas	62 piedras		
Ibidem (another payment from the cacique):			
oro fino	915	0	0
" bajo	224	0	0
" falonia	500	0	0
esmeraldas	60 piedras		
Oro hallado en una sepultura:			
oro falonia	340	0	0
Quinto delo que se huvieron por el libro del veedor de la provincia de Venezuela, que vino con la gente de Federman que se huvo en aquella jornada:			
oro fino	27	0	0
" bajo	525	0	0
Quinto de lo que traxo Fernand Peres (de Quesada) cuando fue a Tunja:			
oro fino	52	0	0
" bajo	60	0	0
Quinto del valor de dos grandes:			
oro bueno	130	0	0 ¹

Soetbeer, with nothing to guide him but the vague and often exaggerated reports of contemporary chroniclers, fixed the average annual production of gold in New Granada in the sixteenth century at 2,000 kilo-

¹ Of these receipts, Quesada carried to Spain as a present to the emperor, 11,000 pesos "oro fino," and all the emeralda, 562. (Oviedo, lib. xxvi, cap. 11.) All of Oviedo's figures in this connection are substantially trustworthy.

grams. Lexis adopts the same figure. Taking as a basis the Spanish official ratio of gold to silver in the first half of the sixteenth century, this represents for the years 1538-60 a value of almost 19 million pesos fuertes. Soetbeer's reckoning, based on the ratio in 1879, was 30 millions.

A Colombian scholar, Vicente Restrepo, in his volume entitled *Estudio sobre las minas de oro y plata de Colombia*, published in 1888, reached conclusions materially reducing Soetbeer's figures. Restrepo estimated the value of the gold produced in New Granada before 1600, as 53 million pesos. This presumes an annual production of 1,325 marcs, or a total of 31,800 marcs for the years 1538-60. At the sixteenth century ratio it was equal to about 12,600,000 pesos, over 6 millions less than the conclusions of Soetbeer.

In the ledgers of the royal treasurers, we find the receipts from the quinto and diezmo, between 1538 and the end of 1557, to be as follows:

	Pesos	Tom.	Gran.
oro fino	73,923	3	0
oro bueno	165,470	2	8
oro bajo	166,755	2	0

No clear indication of the relative values of these various forms of gold is vouchsafed us, either in these ledgers or in the writings of contemporary colonists. It seems most probable, however, that the peso de buen oro was the "peso de oro de minas" of Mexico, of 450 maravedis. "Oro fino" may be identified with treasure secured by the Spaniards in the form of gold-dust, and granted a value of about 490 maravedis. The "peso de oro bajo" was perhaps worth anywhere from 200 to 300 maravedis.

Reducing the above figures to pesos of 8 reals, we have the quinto amounting to 516,600 pesos, and the

diezmo to 57,100. To cover the period, 1558-60, for which there are no figures, we may strike an average for the preceding five years, and add a 35 per cent increase. On this basis, the entire income of the crown from the mines was 720,000 pesos, representing a total registered production of about 4,054,000 pesos.

As in the case of Peru, however, there is reason to believe that a considerable percentage of the gold mined never paid the government tax. There may also be mistakes or omissions in the records themselves, for these ledgers, as I indicated above, are in some places imperfect. To meet such possibilities, we may make the liberal allowance of 50 per cent. The figure, 4,054,000, would then represent about two-thirds of the gold-production of the country, registered and unregistered. The entire output would amount to 6,081,000 pesos. But even this result is less than one-half the estimate of Restrepo, and about 32 per cent of that of Soetbeer and Lexis.

SUMMARY

Soetbeer.....	18,990,000 pesos
Restrepo	12,600,000 "
Present estimate	6,081,000 "

V. WEST INDIES AND TIERRA FIRME

It was the half-circle of the West Indian islands which Columbus reached on his momentous voyage to the coasts of Cathay. And it was from these islands and from the neighboring shores of Central America that the first remittances of gold were sent back to Europe. If Columbus had a higher motive in seeking the Indies, perhaps the delivery of the Holy Places from the infidel, the explorers who followed immediately in his steps were mostly prompted by the hope of find-

ing lands where gold was to be easily secured. Even Columbus believed that "el oro es excellentissimo con el se hace tesoro y con el tesoro quien lo tiene hace quanto quiere en el mundo y llega á que hecha las animas al paraíso."

The reports of these early Spanish adventurers did more credit to their fancy than to their observation. And altho they served to nerve the nation to new undertakings, they also prepared the way for deep disillusion. The actual returns of gold during the first decade must have been in sharp contrast to the expectations thus engendered.

Only after the coming of Bobadilla to Hispaniola as governor in 1499, apparently, did the colonists develop the gold-washings on the island to any great extent; largely, perhaps, because the new governor granted them exemption from the payment of the royal tax.¹ The fleet of eighteen vessels which sailed for Spain with Bobadilla and Roldan in 1502, and the greater part of which perished by the tempest in which Columbus almost lost his life, was considered the richest of its time. The treasure it carried was little over 100,000 pesos de oro, divided between the king and private individuals.²

Altho Bodadilla's successor, Ovando, was strictly enjoined to enforce the royal dues and collect the arrears of Bodadilla's time, the exploitation of the gold-washings continued, entailing the rapid extermination of the unfortunate native population. It reached its zenith probably toward the end of the second decade of the sixteenth century. There were two regions on the island round which these activities centered: one some

¹ Navarrete, *Colecc. de viajes, etc.*, vol. ii, p. 273.

² Gómara, *Hist.*, lib. i, cap. 32; Oviedo, *Hist.*, lib. iii, cap. 9. The treasure included a nugget for the queen weighing 3,000 pesos. Las Casas says that there were 26 vessels carrying 200,000 pesos.

thirty miles from the city of San Domingo, called San Cristobal; the other, the more famous Cibao, about ninety miles from the capital. Peter Martyr wrote, probably in 1510, that the two districts produced over 300,000 pesos de oro a year.¹ The annual yield was perhaps never more than 400,000 or 450,000.

After 1520 the gold-production of Hispaniola seems to have rapidly declined. Small-pox and ill-treatment decimated the Indian laborers; the gold-washings themselves were gradually exhausted; the introduction of sugar mills diverted the colonists' attention to agriculture; the newly explored regions on the mainland drew men more and more from the islands. The annual output of gold dwindled to 30,000 pesos.² If the remittances from Hispaniola continued to be larger than such a figure would warrant, it is because bullion from the neighboring islands of Porto Rico, Cuba and Jamaica, as well as from Central America and Venezuela, generally passed through the hands of the San Domingo treasurer on its way to Spain.

Porto Rico and Cuba, settled by Spaniards in the second decade of the century, at first also yielded considerable quantities of gold-dust and nuggets. They made their largest returns about the same time as did Hispaniola, each producing perhaps 100,000 pesos a year. But the duration of the gold-washings, especially

¹ Decade I, lib. 10, cap. 3.

² Colecc. de doc. ined., 2d ser., vol. ii, p. 370. Soetbeer, p. 49, incorrectly makes the figure refer to Sta. Marta.

In the meantime, between 1500 and 1520 the percentage reserved to the crown was gradually reduced. At first, by an ordinance of April 10, 1495 (Nav. Colecc., vol. ii, p. 165), the crown was to receive two-thirds of the gold collected on the island. This had been the rule in Spain, at least since the time of Juan II (Gallardo, vol. vi, pp. 1-19). Between 1500 and 1504, in reply to petitions from the colonists, the crown's share was successively reduced to one-half, one-third and one-fifth. (Colecc. de doc. ined., 1st ser., vol. xxxi, pp. 13, 216; 2d ser., vol. v, p. 43.) The "quinto" was established for ten years by a cedula of February 5, 1504, and continued till 1520. In the latter year the tax on placer gold was fixed at a dieamo, or one-tenth (ibidem, 2d ser., vol. ix, p. 460), suffering no other reduction till 1552, when it was made one-twelfth (A. de I., 6 — 3 — 2/14, ramo 5).

in Cuba, was very brief, and both islands soon repeated the history of the older colony.

Figures of the booty captured in the various expeditions along the coasts of Darien, Santa Marta and Venezuela, as they are reported by Gómara, Oviedo and Herrera, give an exaggerated impression of the income of Spain from such sources. If some rich finds were made, the total results were meagre enough. Most of the raids scarcely repaid the blood and treasure expended. And the few gold deposits discovered in those regions before the conquest of Mexico, were exhausted even more quickly than the gold-washings on the islands.

Guatemala, and its dependent provinces of Honduras and Nicaragua, continued to produce some gold after the raids of the first conquerors. But compared with the wealth of Peru or New Granada, its yield was very slight. It scarcely exceeded on an average 40,000 pesos a year. And by 1560 the output was almost negligible.

Soetbeer and Lexis possessed no information regarding the gold production of these regions save what they could find in the "Coleccion de documentos ineditos" and in the historians. So their estimates again were highly problematical. For the years 1493-1520, Soetbeer assumed an average annual production of between 700 and 750 kilograms; for the years 1521-44, about 300 kilograms. This means, at the sixteenth century ratio between gold and silver, a value of 10,880,000 pesos. Lexis' figure is 48,000 kilos for the entire period, or 18,990,000 pesos.¹ My own result is based upon a careful consideration of data too miscellaneous to be included in the present paper. It comes remarkably close to the approximation made by Lexis, *i. e.*, 17,000,000.

¹ At the nineteenth century ratio adopted by Soetbeer and Lexis, the figures are 17,187,500 and 30,000,000 respectively.

VI. RESUMÉ

We have passed in review all the regions of the New World from which gold and silver were obtained in the sixteenth century. In most cases a substantial reduction has been made from the figures till now received as authoritative. The difference will appear more clearly in a table summarizing the foregoing estimates:

	<i>Southear</i>	<i>Lezis</i>	<i>Present Estimate</i>
Mexico:			
Gold	4,723,550	13,700,000	5,692,570
Silver	12,520,200	16,900,000	26,597,280
Peru and Chili:			
Gold	18,014,000	21,908,000	} 28,350,000
Silver	43,800,000	12,353,000	
Upper Peru:			
Gold	6,330,000	1,978,000	} 56,000,000
Silver	120,110,000	102,000,000	
New Granada:			
Gold	18,990,000	18,990,000	6,081,000
West Indies and Tierra Firme:			
Gold	10,880,000	18,990,000	17,000,000
Totals:			
Gold	58,937,550	75,566,000	
Silver	176,430,200	131,253,000	
Grand Totals:	235,367,750	206,819,000	139,720,000 ¹

VII. SEVILLE

In view of the rôle played in European politics by Ferdinand of Spain and his grandson Charles V, it is interesting to know exactly the amount of revenue drawn by these princes from their ultramarine possessions. Precise figures are the more important because of the vague ideas of contemporary and later historians. All the royal moneys from the Indies, whatever their origin, passed through the Casa de Contratacion in

¹ 139,720,000 pesos of 8 reales were equivalent to 101,345,000 ducats.

Seville. From the records of this institution, therefore, such information should be readily obtainable.

The receipts, decade by decade, of the treasurers of the Casa from 1503 to 1560, are as follows: ¹

	Maravedis	Marcs	Ons.	Och.	Tom.	
1503-10	148,960,161	13	1	4	0	(oro guanines)
1511-20	280,298,589	136	7	4	3	" "
1521-30	203,331,584		7	1	3½	" "
		1	3	5	4½	(oro en polvo)
1531-40	694,368,519	1,996	5	1	1	(oro guanines)
		132	5	3	2	(oro en polvo)
		8,081	0	7	0	(plata)
1541-50	554,001,827					
1551-60	3,952,055,449					

The total receipts to 1560 amounted to almost six billion maravedis, or over 21,371,000 pesos of 8 reals. The gold and silver given in the table by weight, which probably represented plate, jewels, gold-dust, etc., part of the spoils of the "conquistadores," I have valued at 175,000 pesos. This brings the final figure to nearly 21,550,000 pesos.

So much of the income of the Spanish crown in America actually reached the shores of Europe. It was probably two or three millions more than the whole proceeds of the quinto, and perhaps 80 per cent of all the moneys received by the American treasurers during this period.² This revenue, of course, does not comprise the total importation of coin and bullion from the New World. The sums which came over on the account of

¹ For the years, 1523-25, the records of which are wanting, I have assumed an annual average of 16,858,000 maravedis. For the year 1560, again, I have assumed a receipt of 400 million maravedis.

The items by weight under "1531-40" represent part of the plunder of Peru. The 1,996 marcs was the second shipment, in charge of the contador, Antonio Navarro (the first had been brought back by Hern. Pizarro). It was equal to about 100,000 pesos de minas.

² The expenses of government in America after the creation of the vice-royalties certainly consumed more than 20 per cent of the receipts. They probably amounted nearly to 50 per cent. The figure in the text, 80 per cent, results from the fact that in the earlier years of all the colonies, before an elaborate administration was set up, by far the greater part of the royal income was shipped to Spain.

merchants and other private individuals must have been many times greater. Unfortunately we have no records of them approaching in completeness those for the receipts of the king. Every peso of gold or silver shipped from an American port had to be carefully registered, and two copies of the register forwarded to Seville on different vessels. But almost all of these registers have disappeared. The few surviving in the Archivo de Indias are of too desultory a character to make any generalizations from them possible.

We may gain some idea, however, of the extent of such importations on the principal armadas which returned from the Indies before 1560. The crown early fell into the habit, whenever it was in straits for money, of appropriating all or most of the private remittances brought back by the fleets. The dispossessed persons were generally recompensed with perpetual annuities paying from 3 per cent to 6 per cent on the capital seized. All treasure so embargoed was noted as part of the receipts of the Casa de Contratacion. The first important confiscation of this sort I have found was in 1523. It amounted to 300,000 ducats, and represented all the gold and silver that came from the Indies in five vessels on the account of passengers and merchants. The money was required for the war between the young emperor and his rival Francis I. In 1535, to meet the expenses of the campaigns against Barbary, 800,000 ducats were seized out of the treasure arriving in four ships from Peru. Over 230,000 were taken in 1538, on the return of the armada of the Blasco Nuñez Vela, and a like amount in 1545. In 1553, 600,000 ducats were confiscated from the fleet of which Bartolome Carreño was admiral, and 425,000 from the Mexican fleet of Diego Felipe two years later. The most considerable of these embargoes was in the winter of 1556-57, of the

bullion carried on the two fleets which returned from Vera Cruz and Nombre de Dios in the previous autumn. It reached a total of 1,600,390 ducats and was $2\frac{1}{2}$ times the sum brought on the account of the king. The gold and silver confiscated on Carreño's fleet was equal to $78\frac{1}{2}$ per cent of the royal treasure, and that from the fleet of Diego Felipe amounted to 60 per cent. Altogether the sum so secured during the reign of Charles V, was about five million ducats.

The report that one of these Indian argosies had been sighted off the Azores was news of supremest interest, not only to the Seville merchants, but at the court of Madrid, in Flanders, and in Germany. On the safe arrival of the galleons before San Lucar at the mouth of the Gnadaluquivir, or in Cadiz harbor, often depended, even in the time of Charles V, the monetary solvency of the government.

As Spain was never commercially self-sufficient, never manufacturing enough to meet her own needs, there was a lucrative import trade which attracted hosts of foreign merchants to the country. Germans and Genoese,¹ in the sixteenth century, gathered into their hands not only a virtual monopoly of the Spanish fairs, but all the financial business as well. During the emperor's reign they became a serious menace. As neither the revenues in the peninsula nor the treasure from the Indies was sufficient to cope with the expense of the wars, Charles was forced into greater and greater dependence upon these foreign capitalists. The returns of gold and silver from America were mortgaged in advance, and the Fuggers, the Haros and the Grimaldi were as much concerned with the safety of the Indian

¹ In the earlier part of the century also a few Spanish merchant-princes established at Antwerp, like the Haros and the Vaglies. (Ehrenberg, *Das Zeitalter der Fugger*, pt. I, cap. 4.)

fleets as was the crown itself. In 1520-21 the Fuggers had 33,000 ducats hazarded upon the remittances from the New World; and of the 800,000 ducats embargoed by the crown in 1535-37, over 100,000 went to this same German house.

Increasing production of gold and silver was the most important cause of the price revolution of the sixteenth and seventeenth centuries. As by far the greater part of this metallic wealth came from America, the function of Spain in the movement was a very significant one. She became the distributor of the precious metals to the rest of Europe. And since she "produced little and manufactured less," she performed this function with an efficiency which startled even the Spaniard. The balance of trade in Spain was always unfavorable. In time of greatest prosperity and in spite of all laws, money passed out of the country. But with the injury to agriculture which must have resulted from the revolt of the *Comuneros*, and with the naïve efforts of the Cortes to stem the rise of prices, the situation of Spain toward the middle of the sixteenth century was already becoming intolerable.¹ Her manufactures, even her grain, came to her from France, England and the Netherlands, and thither went her gold and silver in exchange.

Spain, moreover, could not supply the goods demanded in increasing quantities by the Indies, when she did not have enough for her own population. Again strangers were resorted to, and to them the Spanish merchant lent his name to elude a law which made commerce with America a monopoly of the home-country. So in time the foreigner engrossed the greater part of the colonial trade as well, and much of the treasure from the New World was probably diverted immediately to

¹ Bernays, *Zur inneren Entwicklung Castiliens*, pp. 404 ff.

the north of Europe. Altho license was necessary from the crown, this export of gold and silver was the more preferred because the goodness of Spanish coins exalted them above those prevailing in other countries, and made them certain to yield a handsome profit abroad.

One other circumstance contributed to the export of the precious metals: Hapsburg imperialism, — the wide distances separating Charles' dominions, the universality of his interests, the expense of his endless wars. While troops in Italy or in the Netherlands were starving or without pay, the Spanish Cortes was inveigled into doubling the *servicio*,¹ or into an increase of the *alcabala*; or the cargoes of the plate fleets were requisitioned for the needs of the crown. Spanish funds were used to maintain an alien empire.

On such occasions the help of the ubiquitous foreign merchant-princes was again indispensable. The arrival of a rich Indian fleet in the Guadalquivir did not in itself mean the instant satisfaction of the needs of the moment. Even if remittances were sufficient in quantity, they could not forthwith be transported as bullion to Italy or Flanders. They had first to be coined into *escudos* and *reals*. Charles moreover rarely possessed the marine necessary to convoy the treasure in safety to his distant provinces. The government, therefore, called in the aid of the great commercial houses with international connections. Through them it was possible to make payments abroad with certainty and dispatch, the bankers being recompensed with cash in Spain, or with assignments upon future revenues.²

Spain, in the first half of the sixteenth century, perhaps felt no immediate harm from this depletion of her

¹ Bernays, *op. cit.*, p. 391. In Ferdinand's later years the *servicio* was 50 millions annually. After 1539 it was 150 millions.

² Ehrenberg, *op. cit.*, pt. III, cap. 3.

coinage. A non-industrial country could not well absorb all the produce of the American mines. Moreover her stock of precious metals was continually being replenished from an apparently inexhaustible source. On the other hand, this American wealth did serve "to feed an unpractical vanity and further unfit the nation for manufacturing and commercial life." Everything could be purchased with gold and silver, not only cloths and grain, but armies, heretics, and the hegemony of Europe. The opportunity for conquest was offered by the Hapsburg connection. And Spain, by the loss of her industry and the plundering of her fleets, paid the cost of Hapsburg imperialism.

CLARENCE H. HARING.

BRYN MAWR COLLEGE.

APPENDIX

MONETARY VALUES IN SPANISH AMERICA IN THE FIRST HALF OF THE SIXTEENTH CENTURY

Both Soetbeer and Lexis attempted to resolve the complex question of monetary values in Spanish America in the first half-century of European occupation. Their information was gleaned from meagre references found in the "*Coleccion de documentos ineditos*," in the collection of Ternaux-Compans, and in the pages of sixteenth century historians of America such as Herrera and Garcilaso de la Vega. The American treasury records introduce further elements of confusion scarcely suspected before; but they also enable us to gain a juster idea of the standards of value employed in the American colonies.

In Hispaniola and other islands in the first two decades of the sixteenth century, bar gold was doubtless used by weight as a medium of exchange. The crown, however, also endeavored to put into circulation silver and copper coins sent over from Spain. In Seville is a copy of a cedula of April 15, 1505, ordering the officers of the Casa de Contratacion to coin and ship a half-million of silver and a half-million of vellon, the silver real to circulate at a value of 44 maravedis (A. de I., 139, I, 4, lib. i, fol. 159). A letter of Ferdinand to Governor Ovando, in the following December, refers to "*dos millones de cuentos de moneda*" being sent to Hispaniola, money which Ovando was to divide among the inhabitants in exchange for gold (Colecc. de doc., 2d ser., vol. v, p. 114). Another cedula of February 28, 1510, to Diego Colon, announces the sending of the "*cuento de plata de vellon*" (sic), for which the governor had asked to meet the lack of small currency in the colony (ibidem, p. xcvi); and in the ledgers of the India House are noted remittances to cover the value of coin thus sent out.

By selling silver reals at 44 maravedis, when their legal value in Spain was only 34, the crown made an excellent profit on the risk and expense of these shipments. And the real continued to circulate at the higher rate till 1538, when as a consequence of the establishment of mints in the Indies, its value in Hispaniola was arbitrarily reduced to 34, in conformity with the rule elsewhere (ibidem, vol. x, p. 401; Recop., lib. iv, tit. 24, ley 4). Letters to the emperor from judges, merchants and other inhabitants in 1538-39 represented the evils which such an act would bring upon the colony. Prices and wages would rise, trade cease, and the island be depopulated. As no one would bring silver to the newly-established mint, it had been closed and was let out to rent. It seems that in response to these appeals, Charles V extended the old rate for

five years more, after which interval the legal price of the real was to be maintained. (Colecc. de doc., 1st ser., vol. i, pp. 546, 558, 564. A. de I., patr. 2, 1, 2/21, no. 7; 53, 6, 8, no. 51; 139, 1, 10, lib. 22, fol. 314.)

Apparently in the first flush of discovery of these new lands, the Catholic Kings had intended to set up mints immediately to receive the precious metals secured there. In the instruction to Columbus of April 23, 1497, we read:

"Asimismo nos paresce quel oro que hobiere en las dichas Indias se acufie é faga dello moneda de excelentes de la Granada, segund Nos habemos ordenado que se faga en estos nuestros Reinos, porque con esto se evitará de facer fraudes é cautelas del dicho oro en las dichas Indias, é para labrar la dicha moneda, mandamos que lleveis las personas é cuños é aparejos que hobiéredes menester; etc." (Navarrete, Colecc. de viajes, etc., vol. ii, p. 184.)

Not till 1535, however, was a royal mint created in America. A cedula of May 11 of that year provided for a Casa de Moneda in the cities of Mexico and San Domingo. Only silver was to be coined, except in San Domingo where copper might be issued whenever the crown gave special license. The same rules were to be observed as in the mints in Spain (except that the master of the mint was to take three reals out of every marc of silver coined, instead of two), and pieces of eight, four, two, one and one-half reals were to be struck, to be current in the Peninsula as well as in the Indies. There is no evidence, however, that the third real was collected before the reign of Philip II. (Colecc. de doc., 2d ser., vol. x, pp. 264-271; A. de I., 139, 1, 1, lib. I, para. 7:—Instruct. to Ant. de Mendoza, 1st viceroy of N. Spain, April 25, 1535; Recop., lib. iv, tit. 23, ley 4:—Ord. of November 18, 1537. The ordinance of 1535 provided for the coining of one, two, and three real pieces, "medios" and "cuartillos.")

Up to Acosta's time at least (he went to the Indies in 1571), no copper was used on the mainland, owing to the abundance of gold and silver, vellon being current only in the islands (Hist. de Ind., lib. iv, cap. 3). Apparently gold was not minted in Mexico City till 1675, when its coinage was ordered by a cedula of February 25, of that year, "igual en todo à la que se acuñaba en Espana" (Colecc. de doc., 2d ser., vol. x, pp. lxxii ff.).

Before the establishment of mints, means of exchange on the continent of America were extremely crude and confused. In the ledgers of the royal treasurers of Mexico, we find references to many kinds of pesos—"oro comun," "oro mejor que comun con tres quilates afiadidos," "oro marcado," "oro de ley," "oro de ley perfecta," "oro de minas," "oro de Tipusque." To discover the relative values of these various forms of gold is essential to a proper understanding of the ledgers.

Three clues are provided us by the treasurers themselves. We learn that after August 1, 1523, three carats were added to every peso de oro "demas de la ley," and that these three carats were equivalent to sixty maravedis. Such pesos, "mejor que comun," had a value 20 per cent higher than "oro comun," while "oro de ley perfecta" was 40-50 per cent higher. Two more suggestions come from two letters of the licentiate Salmeron, a judge of the Audiencia of Mexico, written to Spain

in August, 1531. In one he says that there are 50,000 pesos "oro de Tipusque" circulating in the country, and that this base gold if converted into ordinary pesos de oro, would approximate 30,000 of the better sort. In the other, speaking of the rent paid to Cortes for the housing of the Audiencia in a portion of his palace, Salmeron remarks that the 9,000 "pesos corriente" already paid the Marquis equal about 6,000 "pesos de oro de minas." Lastly there is the testimony of Bernal Dias del Castillo that the Spanish authorities in the beginning circulated gold of three carats less than the legal fineness in order to aid the soldiers in the payment of their debts, and incidentally to defraud the merchants who had come to Vera Cruz to trade. This baser gold, he continues, was called "Tipusque," an Indian word meaning copper. Eventually the Emperor, moved by petitions from the colonists, ordered the payment of customs dues (*almojarifazgo*) and judicial fines (*penas de camara*) to be made in this "oro de Tipusque," so as to withdraw it from the country.

Soetbeer and Lexis have made clear that the usual standard of value in the Indies in the first half of the sixteenth century was a peso de oro worth 450 maravedis and about 22 carats fine (a peso 22 carats fine was strictly worth 454 maravedis; a peso of 450 maravedis was strictly 21.81 carats fine). Their conclusion is confirmed by the colonial records in Seville. This peso was not a coin, but an imaginary unit; it represented, like the castellano in Spain, one-fiftieth of a marc of gold; and it came to be known as the "peso de oro de minas." As the relation between gold and silver was roughly taken to be 1-10, a marc of silver was said to be worth five of these pesos de oro. Very soon, however, silver was reckoned at the legal value set upon it in Spain, 65 reals or 2,210 maravedis, which implied a ratio of 1-10.18, very close to the legal ratio, which was 1-10.11.

The peso de oro de minas was the unit of exchange from the conquest until the thirties of the sixteenth century. Men paid in uncoined gold of a certain weight and fineness. But in the thirties the output of the Mexican silver mines began to be felt, silver became more common than gold, and was used more and more as a circulatory medium. And as till 1537 there was no American currency, silver too was used by weight as equivalent for these imaginary pesos de oro. After 1537, however, when a mint was in operation in Mexico City and silver pieces of eight reals were issued, the silver peso naturally superseded the peso de oro de minas as a unit of value. But the process was a slow one, and till well into the following century the imaginary peso of 450 maravedis continued to be used in buying and selling bar gold and silver (Soetbeer, *op. cit.*, p. 135, says that it was used only in connection with gold bullion). The silver peso of eight reals or 272 maravedis was the famous Spanish dollar or "piece of eight" of trade the world over.

Of the numerous kinds of gold mentioned in the ledgers of the royal treasurers of Mexico, it is probable that "oro de ley perfecta" represented pesos of the full value of 450 maravedis. If this gold was rated 50 per cent higher than current or common gold, the latter must be worth only 300 maravedis and have a fineness of about 15 carats. If current gold with three carats added was worth 60 maravedis more than before, its value must be about 360 maravedis. This is confirmed by

the statement of the treasurer that it was 20 per cent higher. And the whole reasoning falls in with the remark of Salmeron that 9,000 pesos "corrientes" equalled 6,000 pesos de oro de minas. It may also help to explain the statements of some seventeenth century writers that there was an imaginary unit called the peso ensayado of nine reals (306 maravedis.) (Brit. Mus. Add. Mss., 13,976, fol. 46; Veitia Linaje: Norte de la Contratacion, p. 274.)

The value of the "oro de Tipusque" is always clearly indicated by the treasurers — 272 maravedis. It agrees with the other testimony of Salmeron, that 50,000 pesos de Tipusque were worth 30,000 of the better pesos.

Our table then is the following:

Peso de oro de Tipusque	272 maravedis
" " " corrientes	300 "
" " " " con 3 quil. anadidos .	360 "
" " " de ley perfecta	450 "
" " " de minas	450 "

These figures afford a reasonable explanation of the early Mexican treasury records. At the time of the conquest the Spaniards brought with them from the West Indian islands the peso do oro of 450 maravedis. But owing to the crude means of testing the fineness of gold in the jewels, ornaments, etc., constituting the most important part of the plunder, that which passed for "oro de ley" was much closer to 18 than to 22 carats. Moreover the weights used by the conquerors were evidently at fault. In fact we are told by Bernal Dias that they had to manufacture their own scales and weights to ascertain the value of their booty. Lastly, the Spaniards deliberately debased the gold in circulation, as recorded by this same chronicler. It was doubtless to correct this final blunder that after August 1, 1523, three carats were added to every peso of bullion refined by the royal officials, as we discover in the ledgers of 1522-24. The actual value of the peso before this correction was about 300 maravedis, after the correction about 360 maravedis. The latter was the "peso corriente con tres quilates anadidos." Each, however, in the beginning was current as the peso de oro of 450 maravedis.

Most of the gold in circulation between 1524 and 1530 was in one or the other of these forms. But in the records of these same years we find appearing for the first time "oro de ley perfecta"; and this seems to have been the peso finally raised to its full weight and fineness. Such gold always paid one-fifth to the crown, while other bullion was taxed at rates ranging from one-sixth to one-twelfth.

In the accounts of 1530-31, only "oro de ley perfecta" and "oro comun" are the units used. "Oro de minas" is mentioned, but it refers rather to the source of the gold than to the value of the peso. Not till 1531-37 do we find the "oro de Tipusque," worth 272 maravedis. It is contrasted with "oro de ley perfecta" and with "oro de minas de marca real." It was likely the "oro comun" of earlier ledgers, from this time forward accepted by the government at a considerable discount from its current value in the country. Bernal Dias says that it was all

withdrawn from circulation and shipped to Castile (*Hist. Verdadera*, cap. 157); but his statement is not borne out by the evidence of the treasurers' records.

From 1531 onwards, then, there were only two kinds of pesos legally current in Mexico, that worth 450 maravedis, and that worth 272. The latter either by chance or by policy equalled exactly in value the "pieces of eight" which were coined in Mexico City after 1537, and which soon became the standard money of the country. The former remained an imaginary unit employed for another 150 years in transactions dealing with the bullion at the mines.

The earliest treasury records of New Granada mention three forms of gold — "oro fino," "oro bueno," and "oro bajo" (or "chafalonía"). There was no Casa de Moneda in the colony in these early years, and consequently no coinage of silver pesos. In 1559 and 1560 the audiencia complained of this state of affairs, and urged the establishment of a mint for the issue of silver and vellon (*A. de I.*, 116, 5, 6, lib. ii, fol. 3). In 1563 the lic. Angelo de Castejou wrote that in Pamplona gold-dust was still the current medium of exchange. From the treasurers' accounts, moreover, it is clear that the amount of silver produced by the country was almost negligible. Gold must therefore have been almost the sole medium in use, and the likeliest unit of value was the peso of 450 maravedis, the one common in all parts of Spanish America before the minting of silver. And as in the later accounts, from 1547, when the colony was more settled, the receipts are almost universally reckoned in "pesos de buen oro," I have identified this particular form with the peso de minas of Mexico and Hispaniola.

"Oro fino" appears of less and less importance in the years succeeding the foundation of the "realm." It seems reasonable to suppose that this might represent treasure obtained by the Spaniards in the form of gold-dust. In the beginning gold-dust would be the handiest circulating medium; and at first it would probably be computed at its own weight and value rather than as interpreted in pesos de minas. As it would have a very high degree of fineness, it might easily be current at the value given the gold peso or castellano in Spain, 490 maravedis (the peso de oro 24 carats fine was worth 495.26 maravedis). Such, at least, is the value I have assumed for it.

The peso de minas was also carried by the conquistadores to the Pacific coasts of South America; and continued to be the general unit of value till the establishment of mints in Peru brought about a repetition of the situation in Mexico.

One more type of peso in Spanish America needs to be mentioned. Francisco de Toledo, viceroy of Peru (1569-81), issued an order that when the quinto and tribute of the Indians was paid in silver or reals, the peso was to be reckoned at 12½ reals (425 maravedis). This was later called the "peso ensayado de tributos." Philip II, by a cedula of June 29, 1592, extended the order to all the Indies. (*Recop.*, lib. viii, tit. 8, ley 8.)

RECENT DEVELOPMENTS IN TAXATION IN OHIO

SUMMARY

1. Developments to 1910. Commission of 1908, 481. — Partial adoption of its recommendations, 482. — II. Tax rate limitation, 488. — Origin, 488. — Provisions, 489. — Influence on expenditures, 492. — Influence on return of property, especially intangible, 494. — Future of the policy, 501. — III. Centralized assessment. Tax commission's proposals, 503. — The Warnes law; appointive assessors, 508. — Effect on property valuations, 511. — Further effects, 514. — IV. Conclusion, 516. — Method of selecting assessors, 517. — Amendment of the constitution, 518. — Administrative methods; taxation at source, 519.

I

THE Ohio constitution of 1851, substantially following the Kelley tax law of 1846,¹ fastened the general property upon the state by its provision that

"Laws shall be passed, taxing by a uniform rule, all moneys, credits, investments in bonds, stocks, joint stock companies, or otherwise; and also all real and personal property, according to its true value in money. . . ."

An act of 1852² brought the tax laws more fully into accord with the new constitution, and acts of 1859³ and 1878⁴ codified the various scattered provisions of the statutes relating to taxation. Aside from the development of the tax on foreign insurance companies, of the franchise tax on the capital stock of corporations, of the excise taxes upon public service corporations, and

¹ 44 Ohio Laws, 85; amended by 45 Ohio Laws, 60.

² Article XII, Section 2, Constitution of Ohio.

³ 50 Ohio Laws, 135.

⁴ 56 Ohio Laws, 175-218.

⁵ 75 Ohio Laws, 436-507.

of the "unit rule" in the assessment of the property of express, telegraph and telephone companies¹ there was little important tax legislation during the next half-century.

The beginning of the recent tax reform movement in Ohio may fairly be dated from the report of the Honorary Commission of 1908, which directly attacked the general property tax, as well as the administrative system which had resulted from a half-century's piecemeal legislation. The recommendations of the commission were: (1) a constitutional amendment abolishing the general property tax; (2) a state tax board to administer all laws for the collection of state revenues and to make recommendations; (3) more frequent appraisement of real estate; (4) the separation of state and local revenues; and (5) publicity in local taxation.²

The recommendations which related to administrative features of the tax system were, on the whole, cordially received. An act of March 12, 1909,³ as amended in 1910,⁴ provided that appraisals of real estate for purposes of taxation should be quadrennial, instead of decennial as theretofore. The unsatisfactory character of these infrequent appraisements is made clear by an examination of assessed valuations between 1871 and 1910. During this period the valuation of land and improvements increased \$631,325,597. Between the decennial appraisals, assessors of personalty were required to make additions for new buildings and deductions for destroyed buildings: the net additions to the real estate duplicate on this account amounted in

¹ For a convenient account of these taxes, see E. L. Bogart, *Financial History of Ohio* (vol. I of the University of Illinois Studies in the Social Sciences), pp. 323-329, 336-345. This and later legislation is also described by Professor Bogart in the *American Economic Review*, vol. I, pp. 505-518. Possibly the liquor tax should be included in the list of important tax legislation.

² Report of the Tax Commission of Ohio, 1908, pp. 34-45.

³ 100 Ohio Laws, 81.

⁴ 101 Ohio Laws, 7.

this period to \$610,135,064.¹ That is to say, in forty years the increment of land value in the entire state, as shown by tax assessments, amounted only to \$21,190,533! In contrast with this, the equalized value of real estate in 1911, the year of the first quadrennial appraisalment, was \$1,661,000,000, or 154 per cent larger than the valuation of 1910. The state has now, by the act of May 6, 1913,² accepted annual appraisements of real estate.

The recommendation for a permanent tax commission was adopted by the act of May 10, 1910,³ amended May 31, 1911.⁴ That body was charged with the administration of the franchise and excise taxes upon corporations, with the assessment of the property of public utilities⁵ (formerly assessed by various *ex-officio* boards), and with the equalization of bank shares and of real estate valuations. In marked contrast with the character of previous state boards of equalization, the commission was constituted a true board of assessment, and not merely a board of equalization, through the injunction to see to it that all property is assessed for taxation at its true value in money. The commission was also given general supervisory power over the assessment of property, with authority to order a reappraisalment of the real or personal property in a taxing district, to appoint appraisers for such reappraisements, to reconvene boards of review and equalization, and to raise or lower the assessed valuation of any real or personal property. The law, however, still vested in the auditor of state considerable authority over local assessing officers, mainly incident to his

¹ Report of the Tax Commission of Ohio, 1911, p. 25.

² 103 Ohio Laws, 786.

³ 101 Ohio Laws, 399.

⁴ 102 Ohio Laws, 224.

⁵ The term was now much extended as compared with its former definition.

authority to prescribe the form of the tax statement.¹ The act of 1913² makes the tax commission unequivocally the head of the assessment machinery of the state.

The act providing for quadrennial appraisement required the publication of pamphlet lists of real estate valuations, giving lot and street numbers or other description, and feet frontage or acreage.³ The act of 1913 requires a quinquennial list, and a list of changes in valuations in intermediate years. The quinquennial lists are required to show separately the valuation of improvements, minerals and mineral rights.⁴

Other recommendations of the commission have not fared so well at the hands of legislature and people. Complete separation of the sources of state and local revenue has not been achieved, altho there has been but a small state levy since 1902, — not, indeed, for general state purposes, but for common schools, universities and sinking fund.⁵ The legislature has taken no action on this recommendation, except as state revenue from special sources has been augmented by increases in the rates of the excise and franchise taxes. The tax commission proposed in 1911 that the county should be made the unit for school purposes, thus dispensing with the state common school levy, and that the sinking and university funds be made a charge on the general revenues, together with any state aid required for common schools in the poorer districts. In case the general revenue fund should prove inadequate for these additional demands upon it, the commission proposed to

¹ Section 5366, General Code of 1910.

² 103 Ohio Laws, 786.

³ 100 Ohio Laws, 81, amended by 101 Ohio Laws, 7.

⁴ 103 Ohio Laws, 786, Sections 22 and 23.

⁵ The sinking fund levy provides the interest on the so-called "irreducible debt" of the state, which consists of funds derived from the sale of school and university lands and from special endowments, and received by the state as a perpetual 6 per cent loan. Practically all the interest on this debt is used for educational purposes.

apportion the needed state tax among the counties according to total revenue raised.¹

The desirability of separation has occasionally been questioned on the double score of inadequate support of the common schools, and of insignificance of the present levy.² The plan of the tax commission would seem to dispose of the first of these objections,³ while the hard fact that the state levy, tho small, was one of the factors considered by real estate appraisers in 1910 in determining what valuation to place on property, casts doubt on the sufficiency of the second objection. For entirely different reasons, separation is not now a pressing problem in Ohio. The system of centrally appointed county assessors established by the act of 1913 has resulted in more uniform assessments not only within the county, but also throughout the state, through the removal of dependence upon the favor of the local electorate. The power of the tax commission to promulgate rules and regulations for the valuation of property, and to equalize valuations, has also tended to secure greater uniformity. With uniformity secured, separation as a measure of mere tax reform loses much of its importance.⁴

The proposal to abolish the general property tax is the only recommendation of the commission of 1908 on which adverse action has been taken. At the regular election in that year an amendment which would liberalize the taxation article of the constitution was submitted to the electors and received 339,747 affirma-

¹ Report, 1911, pp. 38-40.

² See, for example, E. L. Bogart, *Financial History of Ohio*, pp. 253, 254; also *American Economic Review*, vol. 1, p. 515.

³ Moreover, the state is obligated, under certain conditions, to contribute to the tuition fund of impecunious school districts. Sections 7595, 7596, 7597, General Code of Ohio.

⁴ For somewhat similar views as to the effects of centralized tax administration, see T. S. Adams, in *First National Conference on State and Local Taxation* (1907), pp. 515-527; and C. J. Bullock, in *Quarterly Journal of Economics*, vol. xxiv, pp. 437-458 (May, 1910).

tive votes and 95,867 negative votes; but under the constitutional rule then obtaining, the proposed amendment was declared lost because it had not received a majority of all votes cast at that election. A ceaseless controversy has since waged as to whether those not voting on the proposal can properly be held to have voted "no," or merely failed to vote through ignorance and carelessness.

The next step of the tax reformers was to secure the calling of a constitutional convention, which convened in January, 1912. Because dissatisfaction with the uniform rule of taxation was the principal cause of its calling, the convention was expected to afford some relief from that rigid rule, if not to provide in terms for classification, with low rates upon intangible property. Probably largely because of the prominence of the single taxers in the convention, the proposal to classify property became confused in the minds of many delegates with the single tax, and was therefore opposed. Moreover, the state tax commission strongly advocated the retention and extension of the uniform rule.¹ It should further be remembered that Ohio's well-earned reputation for drastic tax legislation is the direct outgrowth of a very general popular acceptance of the uniform rule; in the words of Chairman Dittay, "the people of this state are wedded to the theory of a general property tax." These considerations afford the explanation of the overwhelming majority by which the convention voted to re-submit the uniform rule, together with a provision for the taxation of bonds of the state or of its political subdivisions issued after January

¹ See the addresses of Chairman Dittay entitled: "Taxation; Proposed Constitutional Changes" (Pamphlet, Columbus, 1912); and "Uniform Rule and Tax Limit Legislation in Ohio" (Sixth National Conference on State and Local Taxation, 1912, pp. 215-233). Similar views are expressed in the Annual Report of the Tax Commission of Ohio, 1911, especially pp. 32-38. The writer has reviewed this report in the *American Economic Review*, vol. II, p. 729 (September, 1912).

1, 1913. This proposal was adopted at the special election of September 3, 1912 by a majority of 19,175 in a total vote of 518,903, or about half the total vote in the regular election in November.¹

The taxation of municipal bonds promised for a time to become the entering wedge for the revision of the taxation article along more liberal lines. As a result both of financial conditions and of the tax on municipals, issues made early in 1913 found a poor market, and could be sold only on an interest basis varying from one-half to one per cent above customary rates. That rates did not advance more sharply is due to the improbability that the bonds would actually be taxed.²

The result of the declining price of bonds was a movement in favor of the submission to the people of an amendment exempting all state and municipal bonds from taxation. Advocates of classification seized upon this opportunity to secure a revision of the fundamental rule of taxation. There was no reason to suppose that there had been a change in the attitude of voters on this question, but strong ground for hope of a favorable vote was afforded by the adoption in 1912 of a rule for amending the constitution, whereby an amendment carries if it receives the approval of a majority of those voting *on that question*. But the path of taxation amendments is not yet smooth, for a proposal to submit to the people an amendment providing for classification was overwhelmingly defeated in the legislature of 1913, while a proposal to exempt public bonds was approved by a large majority, only to be defeated at the polls by a vote of 312,232 to 340,570.³

¹ Report of the Secretary of State, 1912, p. 657. The amendment also provided for excise and production taxes and for progressive inheritance and income taxes; but these must be in addition to taxes on property. Constitution, Article XII, Section 2.

² The average rate of property taxation in the state is about twelve mills on the dollar; in the larger cities it is about fifteen mills.

³ Report of Secretary of State, 1913, pp. 302, 303.

The foregoing review of past efforts to secure a more satisfactory taxation article in the constitution suggests that the people of the state are not ready to take a progressive attitude on the question of taxation. At the present time, public discussion of the tax question would seem at most to be of educational, rather than of immediately practical, value. Nevertheless, agitation for constitutional revision continues. As I write (December, 1914), the Columbus Chamber of Commerce is directing a campaign to induce the next legislature to re-submit the proposal to exempt public bonds; and during the past summer, a number of organizations under the active leadership of the Ohio State Board of Commerce initiated an amendment to the constitution which sought to provide a classified property tax, together with a narrow limitation of aggregate tax rates.¹ The proposal cannot be considered a satisfactory solution of Ohio's taxation problem. The inclusion of two such distinct projects in one amendment doubtless contributed to the decisive defeat² of the proposal at the November election, and robs the vote of significance as an indication of popular sentiment on classification.

II

Having now sketched the taxation situation as it developed under the immediate impulse of the recommendations of the commission of 1908, we may next examine Ohio's two most recent efforts to make the general property tax in fact what it is in name. I refer to tax rate limitation and centralized assessment.

¹ The text of the proposed amendment, with explanatory matter, is published in pamphlet form by the Ohio State Board of Commerce (Columbus), and may also be found in the *Ohio Journal of Commerce* for August 15, 1914.

² The vote on the amendment was 223,878 for and 551,760 against.

Soon after the reduction in the state levy on general property in 1902, attention was called to the rapid increase in local taxes. This increase had in fact begun somewhat earlier, altho in popular discussions it was commonly dated from 1902.¹ It was asserted that the "tax-spenders," finding their opportunity in the reduction of the state levy, were indulging in a riot of extravagance at the expense of the "tax-payers."

This view appears to me to have originated in the opposition of certain business interests to the development of special corporation taxes for the use of the state government. It is undeniably true that the development of special sources of revenue made possible the reduction of the state levy, but it by no means follows that that development was unwise, or that it was in any sense a cause of increasing expenditures. It is easy to show that the phenomenon of increasing local expenditures is not confined to Ohio,² and has other causes than official extravagance. It would, of course, be too much to claim that there has not been unwise and even

¹ The following table (compiled from the Reports of the Auditor of State) shows the per cent increases of local levies for the years specified over those of the year next preceding. For purposes of comparison, the per cent increases of state expenditures (compiled from Bogart, *Financial History of Ohio*, p. 141, and Auditor's Reports) are also given.

Year	Per cent Increase of Local Levies	Per cent Increase of State Expenditures	Year	Per cent Increase of Local Levies	Per cent Increase of State Expenditures
1896	0.11 %	13.4 %	1905	4.2 %	-0.7 % (Dec.)
1899	3.2	-7.2 (Decrease)	1906	5.1	7.1
1900	2.8	5.1	1907	8.5	1.8
1901	4.8	5.6	1908	5.4	24.8
1902	6.7	1.5	1909	5.7	11.6
1903	6.3	3.2	1910	6.2	-3.9 (Dec.)
1904	8.5	11.4	1911	5.8	8.9
1898-1911	97.0	89.8			
1902-1911	71.5	81.8			

² The expenditures of 146 cities in the United States increased 86.4 per cent from 1902 to 1911. (See *Financial Statistics of Cities*, 1911, p. 17.) In the same period, local levies in Ohio increased 71.5 per cent. Local levies provide the funds for the greater part of local expenditures, and therefore indicate fairly well the trend of local expenditures. City and village levies, not including those for public schools, increased 63 per cent from 1902 to 1911, while those for other local purposes, excluding schools, increased 65.1 per cent and school levies increased 89 per cent.

corrupt expenditure, but there can be little doubt that the principal causes of increasing local expenditures are the growth of population and the emergence of new needs.

The neglect of these considerations by the active representatives of the business interests of Ohio, as well as their attitude on various projects of legislation, gives color to the view that, in their desire to limit their own tax payments, they have been led to oppose the development and extension of the functions of government, and thus, in many cases, to place themselves in opposition to social progress. Nevertheless, their demand that tax rates be limited as a means of enforcing economy in public administration met with popular favor. The supposed advertising value of low tax rates was also urged. The argument for limited rates was put on firmer ground when it was shown that the prevalent evil of under-assessment of tangible property tended to force nominally high tax rates, and thereby to discourage the return of intangible property, the escape of which, in turn, operated to keep rates high. This phase of the argument approaches the common error of many advocates of a classified property tax in believing that a low rate of taxation will of itself bring intangible property out of hiding. To many, this belief in the "coaxing" power of a low rate became the principal reason for advocacy of rate limitation, a view which received some corroboration from the fact that the leaders in the agitation for low rates had also been leaders in the effort to secure classification.¹

The approach of the first quadrennial appraisement of real estate in 1910 was an auspicious time for the inau-

¹ It should be borne in mind that in Ohio individuals and miscellaneous corporations are required by law to declare their personal property for taxation, and that this list stands unless assessing officials can show that it is incorrect, or can persuade the taxpayer to modify it.

guration of a state-wide campaign to secure a closer observance of the constitutional rule requiring the taxation of all property at its true value in money. It was also an auspicious time to secure converts to the rate-limitation propaganda, since the argument lay on the surface that the increase of tax valuations, if unaccompanied by rate limitation, would give the "tax-spenders" an opportunity greatly to increase the amount of taxes collected without incurring the political odium which commonly attaches to an increase of rates. And finally, the experience of West Virginia under legally limited rates¹ was cited as proof of the causal connection between low rates and high valuations, altho that connection obviously runs the other way.

Governor Harmon was interested in the plan, and what was practically an administration measure was introduced in the General Assembly and passed in an amended form May 10, 1910.² The title of the act is significant:

"To secure an equitable valuation of property for taxation by limiting the tax rate, limiting the power to issue bonds, removing certain penalties for improper valuation. . . ."

This act imposed no restrictions on the amount of taxes to be raised so long as the rate did not exceed ten mills on the dollar; but if the amount which could be raised by a rate of ten mills, — exclusive of additional amounts (over those levied in 1909) authorized for

¹ See T. C. Townsend, "Taxation Work in West Virginia," *State and Local Taxation*, vol. iv, pp. 165-178 (1910).

² 101 Ohio Laws, 430. The governor's recommendation is found in his Message, 1910, p. 6. The bill is described by Bogart, *American Economic Review*, vol. i, pp. 515-516. The popularity which the proposal had achieved is well illustrated by the statement of the Cleveland real estate appraisers before the Senate committee on taxation, that they had appraised realty at full value, but would enter the tax valuation at 40 per cent of full value unless the tax rate were limited. And these assessors had sworn to assess all property at its true value in money!

sinking funds or for specified emergencies, or by vote of the people, — should be less than the amount levied in 1909, plus certain percentages for years subsequent to 1910, then the rate might be increased to a maximum of fifteen mills, exclusive of levies for sinking fund and interest. Governor Harmon withheld his signature from the bill because of this elastic limit, and insisted that the amount of taxes levied in any year should be limited to that levied in 1909, and that the rate be limited to ten mills unless more should be "authorized by vote on propositions stating specifically purpose and amount."¹ The act of May 31, 1911, fortunately provided somewhat less rigid limitations. It made the levies of 1910 the norm by which future levies were to be determined. Except for emergencies or by vote of the people, levies made in 1911 might not exceed this norm; those of 1912 might exceed it by 6 per cent; those of 1913 by 9 per cent, and those of any subsequent year by twelve per cent. The levy was further restricted by limiting the tax rate to ten mills, exclusive of sinking fund and interest purposes, but this rate might be increased for emergencies or by vote of the people to a maximum of fifteen mills. Levies for service of debt were, however, still outside this limit of fifteen mills.² Levies for specific purposes were also limited and an *ex-officio* budget commission was created in each county to supervise the enforcement of the various limitations laid down in the law.

Opinion is sharply divided as to the merits of this so-called Smith one per cent law. Mayor Baker of Cleveland has publicly characterized it as "conceived in iniquity and born in sin." It has equally warm defenders. The influential *Ohio State Journal* has re-

¹ Governor's Message, Ohio Executive Documents, Pt. I, 1910, pp. 70-71.

² See below, p. 493.

peatedly referred to it editorially as "the best law ever put upon the statute books." It is impossible to give a complete and accurate statement of its results. It is quite probable that in some places extravagance has been checked, but it is even more certain that desirable expenditures have often been prevented.¹ The law seems to have borne most heavily on permanent improvements in school districts and in the larger cities, altho its full effects are doubtless not yet apparent. A number of taxing districts which had made little or no levy in 1910, because of an accumulated surplus, suffered considerable inconvenience through the limitation of levies to a percentage of the levy of 1910, rather than to a percentage of expenditures drawn from tax revenues. Careful financing in that year was thus penalized by inability legally to make adequate levies in succeeding years. Budget commissions have not infrequently been forced to disregard the law in order to enable some of the local governments to exist and transact business. Sinking funds, in particular, have been neglected. An act of 1913² relieves this situation by eliminating that limitation of total levies which referred to the 1910 levy. It also changes the constitution of the budget commission in such a way as to give to school districts and larger cities greater influence in determining tax levies.³

In some cases, the difficulties experienced under the law were aggravated by reason of the prevalent belief

¹ See the criticism of the law by Mr. A. J. Nook in *Collier's*, June 15, 1912, and the comment thereon by Professor Bogart, *American Economic Review*, vol. ii, pp. 973, 974. For the point of view of school men, see J. F. Orr, *Ohio Teacher*, vol. xxxiii, pp. 354-359 (March, 1913).

² 103 Ohio Laws, 552.

³ In counties where the greater part of taxable property is within cities and villages, the prosecuting attorney is displaced as a member of the commission by the solicitor of the largest city, who is *ex-officio* the legal adviser of the school board. In other counties the president or a member of the school board takes the place of the prosecuting attorney on the commission.

that levies for sinking fund and interest must come within the fifteen mills limitation. It is clear that in taxing districts heavily burdened with debt, such an interpretation might prevent highly desirable expenditures, even when the total levy was smaller in amount than the levy of 1910, as increased by the proper percentage. This interpretation was rejected by the supreme court ¹ during the legislative session of 1913, when it affirmed the decision of the lower court approving a levy in excess of fifteen mills in order to provide for debt not yet existing, but about to be contracted on authority of a vote of the people. The decision drew from Governor Cox a special message urging that the legislature remove all ambiguity in the act and restore the maximum limitation, because tax-payers had been induced to return large amounts of property for taxation at full value, on a virtual pledge of the faith of the state not to exact a rate of more than fifteen mills.² His recommendation was followed, and the law now forbids a rate in excess of fifteen mills,³ even tho it should prove impossible to provide for the barest needs of local government and also to provide for the debt.⁴ Eminent legal authority, including the attorney-general and Mayor Baker of Cleveland, hold that this absolute limitation renders the law void, since it seeks to deprive the taxing district of the power to provide for its lawful obligations;⁵ but the point has not been passed upon by the courts.

¹ *Roose v. State*, 87 Ohio State, 513. Reported without opinion.

² Governor's Message, January 29, 1913.

³ 103 Ohio Laws, 57. For the road tax in excess of this limitation, see below, p. 502.

⁴ In many cases, this contingency has been provided for, at least temporarily, by an increase in the assessed valuation of property in 1914. See below, p. 511.

⁵ See F. W. Coker, "Administration of Local Taxation in Ohio," *Annals Amer. Acad.*, May, 1913.

Notwithstanding the difficulties experienced under rate limitation, it has been proposed to write the ten mill limit into the fundamental law. The administration has at times lent a sympathetic ear to the suggestion, but an initiated amendment to the constitution, which proposed a more rigid limitation of the tax rate than the state has yet tried, was defeated at the November election. The proposed amendment also provided for a classified property tax; if rate limitation could have been voted on separately, it seems not unlikely that it would have been approved.

While the influence of the Smith law on expenditures is a mooted question, it is possible to speak much more definitely of its influence in inducing the voluntary return of property which under the higher rates had escaped taxation. It must be remembered, however, that the agitation in favor of more honest returns and truer valuations of property, which was described above,¹ affected assessing officials as well as tax-payers; in particular the work of the appointive city boards of review showed the effect of this stimulus. An increase in assessed valuation may accordingly reflect heightened administrative efficiency as well as the "coaxing" power of low rates.²

We may take as the basis of our comparison the assessed valuation of property as it stood in 1910. The tax limit act of 1910 became effective January 1, 1911, and therefore had no effect on the assessment of personalty in 1910, while the real estate appraisal of 1910 did not become effective as a basis for tax levies until 1911. When property was being appraised in 1911, however, not only was the campaign for listing at true value

¹ See p. 501.

² It should be added that the law indemnified "tax-dodgers" for past sins by enacting that penalties for evasion should not go back of 1911. 103 Ohio Laws, 266, Section 2.

renewed and the rate limitation act in force, but it was also apparent that the legislature would soon impose still further restrictions on the tax rate. Moreover, the assessment of public utilities and the equalization of the valuation of bank shares and of real estate was now entrusted to the tax commission. The combined result of these forces was a marked increase in the amount and valuation of all kinds of property on the tax duplicate. The assessments fixed in 1912 and 1913 are, however, a fairer test, because the tax limit law was then better understood. The subjoined table ¹ shows the percentile increases in the assessed valuation of various kinds of property over the valuations of 1910:

¹ Tables I and II are derived from the following figures compiled from the Reports of the Auditor of State for 1910-12, and of the Tax Commission for 1910-13. The figures are not in entire agreement. I have used those given by the commission for public utilities and for banks in 1910, altho this figure may include bank realty. The figures for miscellaneous corporations, 1910-12, are arrived at by subtracting the valuations taken for banks and utilities from the amounts for incorporated companies. All intangible property of corporations which is separately stated by the auditor has been assigned to miscellaneous corporations. Finally, I have felt warranted in increasing the 1910 total for corporate personalty by the amount of the discrepancy in the auditor's statements.

PROPERTY VALUATIONS BY SPECIFIED CLASSES, 1910-1913
(Amounts in millions of dollars)

Class of Property	1910	1911	1912	1913
Personal Property				
Corporate Personalty	466.9	1,383.2	1,535.3	1,698.2
Banks	80.7	145.8	147.3	184.2
Public Utilities	226.2	912.9	994.0	1,058.2
Miscellaneous	160.0	324.5	394.0	455.8
Tangible	} Not separable {	260.1	319.1	394.0
Intangible		64.4	74.9	61.8
Personalty of Individuals	360.5	547.0	606.9	632.3
Tangible	220.8	361.0	375.0	392.5
Intangible	139.7	186.0	231.9	239.8
Total Intangible Personalty	(7)	250.4	306.8	301.5
Total Personalty (as in Auditor's "Table VI")	789.6	1,930.2	2,142.1	2,330.5
Discrepancies	37.8	-2.3	3.3	-30.4
Personalty on Duplicate	827.4	1,927.9	2,145.4	2,300.1
Real Estate	1,656.9	4,273.4	4,335.7	4,419.0
Grand Duplicate	2,484.3	6,201.3	6,481.1	6,719.1

TABLE I

PER CENT INCREASES IN PROPERTY VALUATIONS OVER 1910

Class of Property	Per cent Increases		
	1911	1912	1913
Real Estate	158	162	167
Personal Property	133	159	178
Corporate Personalty	196	229	264
Banks.....	80	82	128
Public Utilities	304	339	368
Miscellaneous	103	146	185
Personalty of Individuals ...	52	68	62
Tangible	63	70	56
Intangible	33	66	72
All Property	149	161	170

It is apparent from the above table that the most noteworthy increases in taxable valuations have occurred in those fields in which the influence of the state tax commission has been strongest.¹ In other words, the great additions to the grand duplicate of the state in the three years following 1910 are for the most part due to central assessment or equalization of the valuations of banks, public utilities and real estate,² rather than to fuller returns of their property by tax-payers under the inducement of limited rates. Even in those cases where the assessment is based directly on the declaration of the tax-payer (individuals and miscellaneous corporations), improved assessment work, as previously noted, has contributed to the increase of valuations. Altho relatively much less than in the case of assessments definitely fixed by the tax commission, the increases in the valuations returned to county auditors and local assessors are yet considerable; within the three years

¹ The discrepancies between the reports of the auditor and tax commission make it seem not improbable that these increases are too low in the case of banks. But the classification of corporate property is necessarily somewhat provisional.

² The original valuation of real estate as fixed by the assessors in 1910 showed an increase of 126 per cent over the amount then on the duplicate; to this valuation the tax commission added nearly \$500,000,000, or 25 per cent. See Report of the Tax Commission, 1911, Appendix.

the assessments charged against miscellaneous business corporations increased \$295,000,000,¹ those in respect of the tangible personalty of individuals increased \$170,000,000, and those in respect of individually-owned intangible property increased \$100,000,000.

The change in distribution of the tax burden among the owners of the various classes of property is, however, a more significant test of the results of the Smith law than the increase in valuations. Table II exhibits these changes.

TABLE II

PER CENT DISTRIBUTION OF PROPERTY, BY CLASSES, 1910-1913

Class of Property	1910	Per cent distribution		
		1911	1912	1913
Real Estate	66.7	68.9	66.9	65.8
Personal Property	33.3	31.1	33.1	34.2
Corporate Personalty ..	18.8	22.3	23.7	25.3
Banks	3.2	2.4	2.3	2.7
Public Utilities ...	9.1	14.7	15.3	15.7
Miscellaneous	6.5	5.2	6.1	6.8
Tangible }	Not	4.2	4.9	5.9
Intangible ... }		1.0	1.2	.9
Personalty of Individuals	14.5	8.8	9.4	9.4
Tangible	8.9	5.8	5.8	5.8
Intangible	5.6	3.0	3.6	3.6
Total Intangible Personalty (?)		4.0	4.7	4.5

The significant changes in the immediate incidence of the tax burden which are brought out by the table are the increase in the share of taxes falling upon public utilities from 9.1 per cent of the total in 1910 to 15.7 per cent in 1913, and the decline in the share borne by individuals, whether in respect of the ownership of tangible or of intangible property. The increase in the

¹ The valuation of miscellaneous corporations appears to be very low, when compared with their returns to the commissioner of internal revenue. The figures are of course not strictly comparable; but miscellaneous corporations having their principal place of business in Ohio reported in 1914 a stock capitalization of \$1,679,000,000 with taxable income of \$196,500,000, which is 11.7 per cent on the capital. The property of miscellaneous corporations in Ohio was valued in 1913 at \$455,800,000.

share of taxes falling upon public utilities is to be attributed mainly to the activity of the tax commission in correcting the gross under-assessment which had prevailed prior to 1910. By contrast with the increase in the share borne by public utilities, the decrease in the share of taxes falling upon miscellaneous corporations and individuals from 21 to 16.2 per cent emphasizes the failure of self-assessment even under limited tax rates. The cherished hope that limited rates would avail to place a juster share of the burdens of government upon the owners of intangible property has been sorely disappointed, for such property has of recent years formed a smaller proportion of all property on the duplicate than ever before. The amount of taxes assessed to individuals in respect of their ownership of intangible property, computed at the average tax rate prevailing in the state, was 36 per cent less in 1912, and 27 per cent less in 1913, than in 1910, altho within the period the total amount of taxes levied upon property was increasing.

We may next inquire whether the relative decline in the valuation of the personalty of individuals and miscellaneous corporations can be viewed with satisfaction, as representing merely an equalization of assessments, or whether there continues to be under-assessment and evasion in the assessment of these classes of property.

It is, of course, not possible to estimate the amount of taxable personalty owned by individuals. The total amount of certain classes of intangible property may indeed be approximated, but its ownership is an unsolved riddle. Nevertheless, certain comparisons may be instituted which will throw some light on the relative efficiency of the assessment of different sorts of property.

The entire amount of intangible property listed for taxation by individuals and miscellaneous corporations

in 1912 was \$306,756,000, of which \$119,202,000 represented "moneys on hand or on deposit subject to order." Ten days after tax-listing day, incorporated banks in Ohio reported individual demand deposits aggregating \$357,735,000. At the same date these banks reported time deposits of \$331,321,000, and during the year building and loan associations reported deposits of \$57,468,000. On June 14, 1912, private banks reported to the comptroller demand deposits of \$11,168,000, and other deposits of \$13,088,000. Demand deposits therefore aggregated \$368,903,000; time deposits, \$401,877,000. Time deposits are, under a ruling of the attorney general, taxable as moneys if they are actually paid on demand; otherwise they are taxable as credits and may be offset by debts. Probably most of them are in strictness taxable as moneys. If so, the true amount of moneys approximated \$770,000,000.¹ A considerable portion of these deposits must have stood to the credit of public utility companies; but since it is improbable that such concerns carry any large amount of time deposits, it seems fair to conclude that their deposits could at most account for the demand deposits in excess of the amount of moneys returned. The amount of bank deposits in Ohio which were legally taxable as moneys to individuals and miscellaneous corporations must therefore have been nearly \$500,000,000.

The amount of other items of intangible property — credits and investments — cannot be so readily estimated. Mortgages may be omitted from the estimate, because they are so largely held by banking institutions and insurance companies, and are thus taxed indirectly

¹ The year 1912 is chosen for this comparison because the state department of banking issued no call in April, 1913. The returns of all classes of banks to the Comptroller of the Currency as of June 4, 1913, show deposits aggregating \$821,331,000. The amount of moneys returned by individuals and miscellaneous corporations as of April 13, 1913, was \$112,695,000, and the total amount of intangible property so returned was \$301,537,000.

if at all.¹ No doubt a considerable portion is privately owned and hence directly taxable; but the amount cannot be estimated. Neither is it possible to estimate the volume of credits arising to merchants and professional men of all classes, nor in any case, the extent to which credits are offset by *bona fide* debts. One clue to the amount of credits and investments may indeed be had: the statistics of corporate indebtedness compiled by the commissioner of internal revenue. For 1912, this amounted to \$1,320,000,000.² Some of this indebtedness is of course owned outside the state, and hence not taxable in Ohio; but in view of the great wealth of the state, it seems probable that this amount is more than offset by the indebtedness of foreign corporations owing to residents of Ohio. Some part of the debt is, again, not worth par. But when every allowance is made, it is evident that here is a vast mass of credits and investments legally taxable in Ohio, but actually untaxed.

This attempt to estimate the amount of intangible property in Ohio takes no account of taxable stocks of foreign corporations,³ nor mortgages, nor credits other than those owing by banking and other corporations in Ohio, not all of which can be reasonably supposed to have been offset by debts. In view of these omissions and of the large volume of bank deposits and corporate indebtedness, it seems unlikely that more than a fifth or a sixth of the amount of intangible property legally taxable to individuals and miscellaneous corporations

¹ Banks are taxed on a valuation of their stock, in the name of the shareholders; building and loan associations are exempt from taxation on their mortgages, and domestic insurance companies commonly invest their legal reserve in mortgages, and may then deduct their reserve from their mortgages for purposes of taxation. General Code of Ohio, Sections 5404, 5411, 5412, 9357 and 9675.

² Report of the Commissioner of Internal Revenue, 1912, pp. 81-84.

³ The shares of foreign corporations two-thirds of whose property is taxed in the state are, under certain further conditions, exempt from taxation in Ohio. The shares of all domestic corporations are exempt. General Code, Section 192.

was actually so taxed.¹ The inadequacy of the assessment of intangible property is all the more apparent when contrasted with the assessment of real estate and the property of public utilities, both of which seem to be on the tax duplicate at substantially their true value in money. For example, the average value per acre of farm realty fixed at the quadrennial appraisal of 1910-11 was \$67.86, which compares with \$68.62, the value found by the census in 1910.²

The experience of Ohio has thus demonstrated the possibility of vastly improving the assessment, even of the more easily concealed sorts of property, under a listing system administered by locally elected assessors, supplemented by moderately limited tax rates. But it has equally demonstrated the futility of relying on that system to secure even reasonably complete returns of intangible property while the tax rate remains in the neighborhood of one or one and a half per cent. Moreover, in view of the constant expansion of public expenditure, under the stress of growing population and of even more rapidly growing demands upon the public service, and in view also of the enforced dependence of the local governments of the state upon a uniform tax on general property as their chief source of revenue, there can be little hope of any material reduction in the tax rate.

Already the heavy burden of debt charges and the increasing demands upon government threaten to break down the limitations imposed by the Smith law. A list has been compiled of thirty-six municipalities,

¹ In its report for 1911 (p. 6) the tax commission holds that the amount of taxable intangible property in the state is commonly over-estimated. The only evidence offered in support of this conclusion is a reference to the extent of the exemption of securities and an assertion that inventories of estates under probate indicate that a majority of residents invest in non-taxable securities or in tangible property.

² Report of Auditor of State, 1911, p. 593; Census, 1910, vol. vii, p. 307.

including four of the larger cities, whose annual payments for interest and sinking fund purposes consume from 40 to 71 per cent of their gross tax revenue.¹ Perhaps the most striking illustration of increasing demands upon government is seen in an act of 1913, which compels a levy of one-half mill upon each dollar of taxable property in each county, the proceeds to be used for the construction and maintenance of market roads.² This levy is superior to all limitations upon the tax rate, and the legal maximum rate is therefore now fifteen and one-half mills. Other departures from the Smith law grew out of the disastrous floods which visited large areas of Ohio in the spring of 1913, and necessitated large emergency expenditures for repair and reconstruction of roads, bridges and other public improvements. Public authorities were at once authorized to borrow money for these purposes and to levy taxes for interest and sinking fund payments without regard to existing limitations upon the borrowing power or upon the tax rate.³

The pressure upon the revenues from property taxes has, moreover, been somewhat augmented by the reduction in the revenues from the liquor traffic under the constitutional amendment adopted in 1912,⁴ which limits the number of saloons to one for each five hundred of the population. This had the effect of reducing the number of saloons in the forty-three "wet" counties of the state from 8,485 to 5,523.⁵ The excise tax on saloons is \$1,000; so that the revenue of the state and

¹ Governor's Message, July 20, 1914.

² 103 Ohio Laws, 155, amended by 102 Ohio Laws, 862. This act followed hard upon the defeat of a proposed constitutional amendment in 1912, which would have permitted the issuance of \$50,000,000 of bonds for similar purposes.

³ 103 Ohio Laws, 141, amended by 103 Ohio Laws, 780.

⁴ Section 9 of Article XV, Constitution of Ohio.

⁵ Statement by Auditor of State to press, April 29, 1914.

its subdivisions from this source declined \$2,962,000.¹ Of this loss of revenue, more than \$1,500,000 fell upon the eight counties containing the largest cities of the state (those having over 50,000 population in 1910).² So precarious had the financial condition of the cities become by last spring, that a commission was created to investigate the subject,³ altho hopes are entertained that the difficulty will be relieved by the improvement in the assessment of property, which is next to be discussed.

III

The recommendation by the constitutional convention and the adoption by the people of the amendment re-enacting the uniform rule and restoring the tax upon municipal bonds⁴ was quite naturally interpreted by the tax commission as a mandate from the people to draft a bill which should not only provide the administrative machinery believed to be necessary to secure an efficient assessment of property, but should so revise the definitions of taxable property and the rules of valuation as to conform to the commission's idea of a general property tax, and include property and values now untaxed. These ideas were submitted to the governor and assembly in the form of a bill with explanatory notes.⁵

¹ Since the revenue from the liquor traffic is divided among state, county, and city or township in the ratio of 3, 2, and 5, local liquor revenues declined more than \$2,000,000. The loss of revenue to the state was compensated by certain fees payable to the state liquor license board.

² The estimates of revenue are based upon statements given to the press. The total revenue from the liquor traffic is likely to be somewhat increased under the "home rule" amendment adopted November, 1914, which substitutes local option for county option on the question of saloons. But this can hardly increase the revenues of the larger cities, which were already "wet."

³ 104 Ohio Laws, 192. The commission is to report in December, 1914.

⁴ See above, p. 486.

⁵ Recommendations of the Tax Commission of Ohio. Columbus, February 20, 1913. P. 123.

The bill proposed to make changes (1) in the administrative machinery, (2) in the definition of taxable property and the rules of valuation and situs, and (3) in the provisions for the collection of taxes. Since the collection of taxes is a phase of tax administration quite distinct in interest from the principles of taxation and the assessment machinery intended to enforce the principles, it may be passed over in this paper.¹

Altho the sections of the bill which proposed to change the definition of taxable property and the rules of valuation did not receive legislative sanction, it seems worth while briefly to discuss them because they show what measures the state may be driven to adopt, by the pressure for more revenue, if it adheres to the general property tax and to rate limitation. The spirit of the bill is well suggested by the definition of the term "personal property" to include

"every thing, interest, right or privilege, all and singular, of whatsoever kind, name, nature or description, being the subject of ownership, which the law may define or the court interpret, declare or hold to be property, whether animate or inanimate, tangible or intangible, corporeal or incorporeal, other than and not forming part of a parcel of real property, as defined in this chapter. . . ."

Other sections of the bill define with considerable particularity various specific kinds of property. Mortgages are defined as money loaned by residents, secured by lien on real estate without the state; money loaned by residents or non-residents and secured by lien upon real estate within the state; and all sums owing to residents or non-residents, secured by lien on any real or personal property within the state and belonging to any corporation or public utility. Mortgages and bonds secured by lien on property within the state could thus be inevitably taxed, wherever owned, by making the tax a lien on

¹ This part of the commission's proposed bill was introduced in the Senate by Mr. Haas, but did not come to a vote.

the mortgaged property; but no deduction from the valuation of the mortgaged property was contemplated, as is the usual practice where mortgages are taxed where the encumbered property is located.

It is obvious that the adoption of this proposal would result in a much more flagrant case of double taxation of mortgages than the present system. Nor does it seem likely that such a plan would successfully run the gauntlet of the federal courts. In the leading case of *State Tax on Foreign-held Bonds*, arising in Pennsylvania, the court held that bonds owned by non-residents, altho secured by a mortgage upon property situated in the state, are property beyond its jurisdiction. In explanation, the court remarked that in Pennsylvania, a mortgage, tho in the form of a conveyance, is a mere security for a debt and *transfers no estate* in the mortgaged premises.¹ In essential harmony with the Foreign-held Bonds case, the supreme court has since explicitly held that due process of law is observed and equal protection afforded, where the mortgage is taxed as land, wherever owned, and the mortgagor is permitted to deduct the mortgage from the value of his property.² The tax commission of Ohio expressly refused to regard a mortgage as an interest in real estate: to do so would imply the right of the mortgagor to deduct the mortgage debt from the value of his property for purposes of taxation.

Several later cases have upheld the right of a state to tax credits belonging to non-residents when those credits are in the hands of a resident agent, or arise from a regu-

¹ 15 Wallace, 300.

² *Savings and Loan Society v. Multnomah County*, 169 U. S. 421. Apparently in the effort to justify the Oregon legislature in regarding a mortgage as land, the court rejected its earlier interpretation of the Pennsylvania law as to the character of a mortgage there. See also Goodnow, "Congressional Regulation of State Taxation," *Political Science Quarterly*, vol. xxviii, pp. 405, esp. 412, 413 (September, 1913).

lar business carried on in the state.¹ The non-resident investor in the mortgage bonds of Ohio corporations or in mortgages on Ohio real estate will not ordinarily fall within these classes, and hence, it would seem, cannot be taxed by the state of Ohio except at the cost of permitting the mortgagor — whether corporation or individual — to deduct the debt from the value of the taxable property.

The present law defines credits as the excess of legal claims over *bona fide* debts. The proposed bill sought to increase the amount of taxable property by excluding mortgages from the category of legal claims, thus preventing the deduction of debts from the value of mortgages owned in arriving at their taxable value. This proposal was strongly opposed by domestic insurance companies, whose legal reserve is chiefly invested in mortgages and is therefore practically exempt from taxation under the law permitting the reserve to be regarded as a debt for purposes of taxation.² It was further proposed to confine the deduction of debts to those owing to residents.

The bill proposed also to tax the shares of all corporations at full value unless the entire corporate property was taxed in the state,³ but this proposal occasioned such a storm of protest that the commission so far yielded as to propose (in the bill as introduced in the house) to tax such shares in that proportion of their value which the

¹ *New Orleans v. Stempel*, 175 U. S. 309; *Bristol v. Washington County*, 177 U. S. 133; *Metropolitan Life Insurance Company v. New Orleans*, 205 U. S. 395.

² Section 9357, General Code of Ohio.

³ It had been the policy of the state since 1846 to exempt from taxation the shares of corporations all of whose property was taxed within the state. Acts of 1900 and 1902 exempted, under certain conditions, the shares of foreign corporations at least two-thirds of whose property was taxed within the state, and an act of 1904 exempted the shares of all domestic corporations. The last mentioned act would appear to be clearly unconstitutional, while the constitutionality of the act of 1902 has been questioned by high authority. See Report of the Honorary Tax Commission, 1908, p. 13, and Report of the Tax Commission, 1911, p. 5.

value of the property not taxed in Ohio bears to the value of the entire corporate property. Furthermore, the bill defined the "true value in money" of personal property as its "value for the purpose of sale, income or use," and particularly provides that "a mercantile, manufacturing or other plant, or any business of any kind . . . shall be listed and valued as a going concern."¹

Several provisions of the bill looked to the strengthening of the powers of assessing officials in the discovery of taxable property. The powers of county auditors in attempting to discover concealed property had long been inquisitorial in a high degree;² the chief innovation in the proposed bill consisted in giving to the assessor, rather than to the assessed, the privilege and duty of placing the valuation on the property listed. The effect of this would be to place upon the tax-payer the burden of showing that the assessor's valuation was incorrect; whereas the burden now lies with the state to overthrow the tax-payer's valuation.³

The legislature of 1913 was strongly Democratic, and the administration had pledged itself to a large legislative program; so that it was altogether unlikely that so comprehensive and important a bill could be passed without active administrative support. The strength

¹ Altho this provision was not enacted into law, the tax commission, under its new power to prescribe rules and regulations, attempted to put it into effect, but was prevented from so doing, in the case of general business corporations, by a decision of the court holding that the law does not justify the making of any distinction between the assessment of the personal property of an individual and a corporation, except such as may be engaged in operating public utilities.

² It was under these powers that the practice of employing private inquirers grew up and was later authorized by formal enactment. See Carver, "The Tax Inquisitor System in Ohio," *Economic Studies*, vol. iii, pp. 167-212 (1898); also Bogart, *Financial History of Ohio*, pp. 219, 239-242.

³ There may seem to be some doubt as to the accuracy of this statement in view of the language of the act of 1913, which provides that the assessor shall "list and value" property for taxation. But the sections governing the listing and valuing of property were not changed by that act, and the tax commission seems to have considered their change essential to its plan. See *Recommendations*, pp. 57, 58.

of the opposition to various features of the bill, as well as their intrinsic unsatisfactoriness, led the administration to withhold its support, altho it favored a bill revising the administrative machinery of the tax system and intimated that a more thoro going revision of the methods of taxation might be undertaken at a special session of the legislature, to be convened in 1914.

In the legislative session of 1911, there had been introduced a bill providing for a system of appointive county assessors,¹ which failed of passage through disagreement between House and Senate as to the appointive power. This bill was the pattern for the administrative sections of the commission's bill, which were now redrafted and after some amendments became the so-called Warnes law of May 6, 1913.²

The act constitutes each county in the state an assessment district, and provides that the governor shall appoint an assessor in each of the smaller districts and a board of two assessors in each district which contained at least 65,000 inhabitants at the last preceding federal census.³ The assessor's tenure of office is indefinite. In each district there is created a board of complaints, having three members appointed by the tax commission with the consent of the governor for overlapping terms of three years. Both assessors and members of boards of complaints are removable by the tax commission with the consent of the governor. These officers are not within the classified civil service, being appointed by, or with the consent of, the governor;⁴ but all their subordinates are under civil service rules.

¹ H. B. 395, by Mr. Edwards. Similar measures had been recommended by Governor Foraker in his messages of April 6, 1886, and January 4, 1887, and by the special commission of 1893. See Report, pp. 45, 46, 71-77.

² 103 Ohio Laws, 786.

³ There are fourteen such counties in a total of eighty-eight.

⁴ Section 8 of the Civil Service Act, 103 Ohio Laws, 698. The act does not make entirely clear the position of members of boards of complaints, but it has been construed

The powers of these officers are comprehended in the statement that they shall, "under the direction and supervision of the tax commission," assess for taxation all real and personal property in their respective districts, except the property of public utilities, which is assessed by the tax commission. The powers of the former elective assessors, appointive city boards of review, and *ex-officio* county boards of review and equalization, and the powers of county auditors in the assessment of property, are transferred by blanket provisions to the newly created district assessors and boards of complaint.

The authority of the tax commission is seen not only in the general provision that it shall "direct and supervise" the assessment of real and personal property, but in various detailed provisions defining and explaining that authority. The commission is empowered to prescribe forms and to make and enforce rules and regulations for the assessment and valuation of property for taxation. The salaries of assessors and members of boards of complaints are to be fixed within specified limits by the commission with the consent of the governor. The number and terms of service of all subordinates and employees of assessors and boards of complaints are to be fixed by the commission, which has also the power of approval of the salaries of such subordinates. The commission fixes the time within which boards of complaints must complete their work.¹ Appeals lie from the board of complaints to the tax commission, which may, however, make an independent investigation of the matter in complaint.² Assessors

as stated in the text by the attorney-general in Opinion No. 899, dated April 29, 1914. See also Opinion No. 661, December 27, 1913.

¹ Members are paid on a *per diem* basis.

² The commission has always possessed the power to make changes in the valuations of real or personal property. See 101 Ohio Laws, 899, Section 81.

and boards of complaints are required to perform such other duties as the commission may direct, including attendance at conferences with the commission or with other assessors and members of boards of complaints. The power of the commission as a state board of equalization is extended to the annual equalization of the valuations of both real and personal property,¹ and to this end the commission may increase or decrease the valuation of the real or personal property, or of any class of either in any taxing district or division of a municipal corporation, or may order a re-assessment of any such property.²

Under the former law, boards of review and equalization might add omitted property and change assessors' valuations on their own motion, and were to that extent boards of original assessment. It was the intention of the Warnes bill to concentrate authority and responsibility; and in harmony with this idea the board of complaints was made strictly what its name implies. But in the haste of the last few days of the session an amendment was offered and accepted which gives the board power to make changes in valuations "upon its own initiative," a power which is entirely inconsistent with the provisions of other sections, and which might operate to impair the quality of the assessor's work through the opportunity thus afforded to throw the responsibility for difficult or unwelcome assessment work forward to the board of complaints. In its instructions to boards of complaints, the tax commission

¹ Heretofore the commission has equalized the valuations of real property quadrennially. There has been no state-wide equalization of personal property, except of bank shares and, formerly, of the property of transportation and transmission companies, now assessed by the commission.

² These provisions somewhat extend the powers of the commission under the act of 1910. See above, p. 482.

has limited their activities to reviewing complaints; but it is not certain that the courts will sustain this restriction, if brought to their attention.¹

The Warnes law, then, creates a body of assessing officials who, by reason of their tenure of office and emancipation from political obligation to the electorate, occupy a unique position in the history of the American general property tax. Moreover, the coördination of the work of the several assessors through the direction of the tax commission serves greatly to enhance the efficiency of assessment. How this was accomplished in 1914 is described by Governor Cox in his message to the legislature convening in extraordinary session July 20 last. He said:

"The state commission was able to secure close coöperation between the district officials in the eighty-eight counties — something impossible except under the centralized authority plan; mortgages were copied and exchanged, lists of taxable securities, with the names and addresses of holders, were distributed, and from this source approximately \$100,000,000 of taxable values were secured. There was also an interchange of other useful information. The commission kept in constant touch with the work in the counties; district assessors required daily reports of the work from their deputies; and the district assessors reported weekly to the tax commission. In addition, three traveling examiners inspected the work, for the purpose of verifying reports and to give assistance. In this manner the commission was able to secure uniformity in the assessment of the several classes of personal property in the various counties."

If the new law is to be judged by its immediate effect on property valuations, it must be unequivocally approved. As early as midsummer, the unrevised returns of assessors indicated an increase of approximately one billion dollars in the grand duplicate, and on this showing the administration ventured to cut the tax rate for

¹ See above, p. 507, note, for a case in which the commission's instructions were overruled.

state purposes in half.¹ A better test of the law's results, however, will be found in the relative increases in the valuation of different classes of property. These increases are presented in the following table, together with the per cent distribution of property in 1913 and 1914.²

TABLE III

PROPERTY VALUATIONS BY SPECIFIED CLASSES, 1914,
PER CENT INCREASES OVER VALUATIONS OF 1913, AND PER CENT
DISTRIBUTION OF PROPERTY, 1913 AND 1914
(Amounts in millions)

Class of Property	Valuations	Per cent Increase Over 1913	Per cent Distribution 1913	Per cent Distribution 1914
Real Estate	\$4,606.0	4.2	65.8	60.8
Personal Property	2,976.4	28.4	34.2	39.2
Corporate Personalty	1,840.9	8.4	25.3	24.3
Banks	161.8	-12.2	2.7	2.1
Public Utilities	1,096.1	3.6	15.7	14.5
Miscellaneous	583.0	27.9	6.8	7.7
Tangible	446.3	13.3	5.9	5.9
Intangible	136.7	121.2	.9	1.8
Personalty of Individuals	1,135.5	79.6	9.4	14.9
Tangible	464.1	18.2	5.8	6.1
Intangible	671.4	180.0	3.6	8.8
Total Intangible Personalty...	808.1	168.0	4.5	10.7
Grand Duplicate	7,582.4	12.8		

The most significant fact brought out by the table is that the principal increases have occurred in those classes of property whose valuation has heretofore been determined almost exclusively by the owner's return, —

¹ This was one of three laws enacted at the extraordinary session of the legislature which convened and adjourned July 30, 1914. The original and revised levies for the several funds are appended:

	Original Levy	Revised Levy
Sinking Fund .....	.0335 mills	.0225 mills
Common School Fund .....	.3350 "	.0650 "
University Fund .....	.0925 "	.0925 "
Highway Fund .....	.5000 "	.3000 "
Total .....	.9610 "	.4500 "

² For furnishing me these figures in advance of publication, I am indebted to Hon. A. B. Peckinpugh, vice-chairman of the tax commission.

the property of miscellaneous corporations and of individuals. Moreover, the improvement due to centralized assessment is shown to be most marked in the case of intangible property, the valuation of which has been increased by a round half billion dollars. For the first time in many years the share of the property tax falling upon intangible property has been materially increased.¹ What limited tax rates alone could not do has been accomplished with the assistance of centralized assessment. The assessment of intangible property is still, however, much less efficient than that of other forms of property. Less than three weeks before tax-listing day in 1914, state and national banks alone reported demand deposits of \$416,409,000, and time deposits of \$375,042,000, while the amount of moneys listed for taxation aggregated \$148,600,000 and the total valuation of intangible property was \$808,000,000. In view of these figures and of those cited above,² it can hardly be contended that more than half the taxable intangible property in the state has been reached.

Yet even this limited success of the Warnes law in enforcing the constitutional mandate that all property shall be taxed at a uniform rate is to be welcomed, tho less perhaps because it has, at least for the time, somewhat reduced inequalities among the owners of intangible property, than for other reasons. In the first place, the possibility of great improvement in assessment work has been demonstrated. This is an important step toward removing the fear of a declining revenue, which has so often stood in the way of effective tax reform in Ohio, as elsewhere.³ In the second place,

¹ Not since 1870 has intangible property formed so large a proportion of all property on the grand duplicate.

² Cf. p. 500.

³ It will be recalled that an ineffective system of administration stood in the way of the success of the Iowa five mills tax on intangible property. See Brindley, *State and Local Taxation*, vol. vi, pp. 407-418.

the results of the first year's operation of the new law emphasize anew the difficulty of securing even a reasonably complete assessment of intangible property so long as we attempt to tax it uniformly with tangible property, at a rate which — even tho limited — still takes one-fourth or more of the income from investments. For it is not to be expected that the assessments of subsequent years will show much improvement over those of 1914. The new broom has probably swept about as clean as it will sweep.

It is reported by brokers that the unexpected resourcefulness of the tax commission in procuring lists of stockholders in foreign corporations has already resulted in a considerable shifting of investments to those which are not taxable in Ohio. There are many such securities: the stock of all Ohio corporations, the stock of foreign corporations two-thirds of whose property is taxed within the state,¹ and bonds of Ohio municipalities issued prior to 1913. For the investor who desires to avoid stocks and yet gain a higher rate of income than municipal bonds ordinarily yield, and who does not scruple to conceal his investments, there are ample opportunities in fields of which there is no public record, such as coupon bonds and promissory notes. Nor is it ordinarily difficult to evade taxation by investing in foreign mortgages, or through non-resident investment agents, or by a number of less common devices. In sum, the door is by no means closed to the tax-dodger, nor is the tax rate in Ohio low enough (if indeed any rate is low enough) to remove the inducement to evasion. This is merely to say that the assessment of intangible property under the existing system remains

¹ In practice, this means that the stock of most foreign corporations doing business in the state is deemed to be non-taxable. See Report of the Tax Commission, 1911, p. 6. But the power of the tax commission is now ample to determine the question of taxability, and to place taxable stocks on the list.

and must remain largely haphazard. Concealment and evasion have been made less easy for some classes of intangible property, but they are not difficult in cases where "information at the source" is not an available method.¹

It is to be remembered that under the lax assessment methods previously obtaining, the tax on intangible property was at most only partially and very irregularly shifted. More rigorous assessment will, therefore, by reducing the net yield of investments, lead to the withdrawal of investors from those fields in which the tax can be most unfailingly assessed, as has been noticed in the case of foreign corporation stocks. The reduction in the supply of capital in these fields will then tend to increase the rate of return to capital which still braves the tax-gatherer. To be sure, the extent of this influence depends upon the scope of the market for the taxed investments. It will be inconsiderable in the case of the stocks of large and well-known foreign corporations, but it will probably be quite important in the case of mortgage loans upon Ohio real estate. It is true that a considerable portion of such loans is made by banking institutions not directly taxable on their mortgages, but it is probable that the rate of interest paid on deposits is influenced somewhat by the fact that deposits are taxable at the full property rate as moneys or credits.² The loan rate is of course directly related to the rate of interest paid on deposits. Loans by non-residents probably have little influence in depressing the rate of interest, as might on first view be expected, both

¹ This method is specifically prohibited in the case of bank deposits generally (the not in specific cases) by an amendment which the banking interests succeeded in attaching to the Warnes bill. (103 Ohio Laws, 786, Section 52.) A similar section in the tax commission act of 1911 was vetoed by Governor Harmon. (102 Ohio Laws, 224, Section 162.)

² Such is the view of some of the more thoughtful and well-informed of Ohio bankers. See note by the writer in *American Economic Review*, December, 1914, pp. 965, 966.

because of their limited amount and because such loans are in most instances taxable in the state of residence.

The ultimate influence of the act upon the popular attitude on the taxation of intangible property is not altogether clear. On the one hand, as interest rates on mortgage loans rise in response to more certain assessment, the argument from the purse will tend to convert into tax reformers many of those who in the past have been the staunchest defenders of the uniform rule.¹ And if, as seems likely, the proportion (if not the actual amount) of intangible property on the duplicate declines in future, attention will again be directed sharply to the intrinsic unsatisfactoriness of the general property tax. On the other hand, it is not unthinkable that these forces may only result in renewed antagonism to the "money kings" and in a determination on the part of the rural element in the legislature² to force intangible property to contribute taxes in proportion to its value. If so, the plan promulgated by the tax commission in 1913 may be revived, or yet more drastic legislation be enacted, before the dawn of a brighter day for tax reform in Ohio. But whatever the popular verdict on the uniform rule, it cannot be gainsaid that the principle of centralized assessment has amply justified itself.

IV

By way of summary, the two main conclusions which flow from Ohio's recent experience in taxation may now be restated: first, centralization is an important, if not an indispensable, aid to effective assessment, particularly of intangible property, whatever the policy

¹ That the shifting of the tax on mortgages is understood by many farmers was shown in the constitutional convention of 1912 by the proposals introduced by rural members to exempt mortgages from taxation, while continuing the tax on other forms of intangible property.

² By reason of the county system of representation, the rural population has a disproportionate voice in the legislature.

adopted for the taxation of such property may be; and second, the general property tax cannot be bolstered up into a satisfactory system by the devices of limited rates and centralized assessment.

While centralization has approved itself, the method now in vogue for the selection of district assessors and members of boards of complaints is open to serious objection. These officers appear, upon the whole, to have been well chosen; but the conditions of their appointment have created, and will perpetuate, a suspicion of partisanship. Assessing officials should be removed as far as possible from all taint of partisan bias, and to this end the law should be so amended as to bring them definitely within the classified civil service. Unfortunately, the political situation in the state hardly warrants hope of the early adoption of such an amendment. In the recent state campaign, both Republicans and Progressives denounced the system of appointive assessors as tending to the creation of a political machine; and the incoming administration is virtually pledged to make the county assessor an elective officer, if not to restore the old system of township assessors. Such a change in the law would be particularly disappointing to those who hope to see the constitution so amended as to permit a radical revision of the tax system; for the success of such a revision will depend in no small measure on the experience and efficiency of the assessing corps. Moreover, it would be unwise to repeal the new law before it has had a fair trial, and return to a system of proved inefficiency. It is reported, however, that the governor-elect approves of central control of assessors, whether the assessors be elected or appointed. There is thus ground for hope that the state may retain most, if not all, of the advantages of the present system.¹

¹ The Republican majority in the legislature now in session (April, 1915) planned to transfer to county auditors the powers of district assessors pending the re-establishment

Perhaps in no other state has the theory of the general property tax been more vigorously defended and the legislation supposed to be alone necessary for the successful operation of the tax been more cheerfully provided; yet the result is at best a partial and, in all probability, a temporary success. At present, public opinion still insists upon the enforcement of the uniform rule.¹ Nevertheless, it seems appropriate to conclude this paper with a suggestion of the lines along which a satisfactory reform of the property tax should proceed.

In view of the fact that the proposal to classify property for purposes of taxation has been so widely discussed in the state, it seems fairly certain that the first step in reform will be the adoption of a constitutional amendment providing for some degree of classification and according a low rate, rather than exemption, to intangible property. Advocates of classification in the state have seldom gone so far as to suggest the administrative measures by which the taxation of intangible property could be made effective; for the most part, they seem to have assumed that a rate of three or four mills would result in a satisfactory voluntary return of such property. The experience of Ohio as traced in this paper affords little warrant for such an assumption, but rather makes it clear that self-assessment should be avoided wherever possible. Intangible property should be reached through the taxation of the particular wealth which underlies it and gives it value, wherever that wealth can readily and certainly be identified. For example, corporations whose entire property is in the

of the system of elective assessors. On the failure of this bill, the tax commission, at the request of the governor, removed all the assessors and the governor has made new appointments.

¹ As I write, it is reported in the press that the tax commission will recommend that tax rates be further limited and that assessors be given greater power in the effort to secure a fuller assessment of intangible property.

state should be taxed on a valuation which takes full account of the value of stocks and bonds, and these securities should then be exempted in the hands of their holders.¹ Similarly, real estate mortgages should be exempted, or taxed as an interest in real estate. In principle, moneys and credits should also be exempted; but since the dependence of their value on that of some particular wealth is less readily seen than is the case with securities, it would probably prove to be politically expedient to tax them at a low rate — say three mills. As in Minnesota, this rate should be accompanied with the abolition of that most fruitful source of perjury — the privilege of deducting debts from credits. The revenue should further be safeguarded by imposing the tax at the source where practicable — for example, by taxing all classes of banks on their average deposits, and granting them the privilege of deducting the tax from the depositor's account.

There is stronger ground of principle for the taxation at low rates of investments representing in whole or part wealth outside the state. The obligation to pay taxes where one resides is not to be questioned in a federal state.² In the case of most foreign investments, reliance would have to be placed on personal declarations, under such restraints as careful administration may provide. In the case of investments in the stock of corporations chartered or doing business in the state, however, it would be practicable to impose the tax at the source; it should be levied on that proportion of the value of the shares which represents property owned or

¹ Such a plan would, indeed, at least for a time, increase the burden falling upon stockholders, but in the long run, interest rates on bonds would be so adjusted as to correct this. In any event, the plan proposed seems better than the present haphazard assessment of corporate bonds.

² See Bullock, "The Taxation of Intangible Property," *State and Local Taxation*, vol. ii, pp. 127-137, 164, 165; Tausig, *Principles of Economics*, vol. ii, pp. 539-541, and Seligman, *Essays in Taxation*, 1st ed., pp. 110-114.

business done outside the state.¹ This proportion could readily be determined by the tax commission, and could be applied as well to the bonds of foreign corporations, the assessment of which would, however, have to depend mainly on personal declaration. It must be admitted that political expediency might force the imposition of similar taxes on domestic investments; but such taxes would be more equitable as among the owners of intangible property, and hence less objectionable, than those now imposed by the law.

For such a system of taxation there is much to be said on both theoretical and practical grounds. To a large extent, it will do away with the double taxation of property and wealth.² Even where double taxation is not abolished, it will at least be mitigated by the lower rates on intangible property, and by the nearer approach to universality which may be expected to result from low rates and competent administration. There will then be less warrant for the cry of "unjust" double taxation, and the ethics of tax-paying will tend to reach a higher plane. Finally, the revenue results of such a system are not to be despised. From bank deposits alone, a tax of three mills would yield in the neighborhood of \$2,500,000, or about two-thirds the yield of all taxes levied upon intangible property in Ohio in 1912 or 1913. The proposal made for the taxation of the securities of foreign corporations would not effect any material permanent reduction in the revenue from security holdings in foreign corporations, for the amount of such securities heretofore taxed has been relatively

¹ In the light of the principle of "economic allegiance," the present exemption of the shares of domestic corporations, regardless of the location and taxation of their property, is indefensible. Nor can the franchise tax of three-twentieths of one per cent on the capital stock of corporations be held fairly to offset this exemption.

² The writer believes that the distinction between the terms "property" and "wealth" should be strictly observed. Such phrases as "intangible wealth" have no meaning with reference to the taxation of moneys, credits and investments.

small. It does not seem extravagant to expect that under such a system as is here proposed, the yield from intangible property would be greater than can be permanently drawn from it under even the best administration of the general property tax.

OLIVER C. LOCKHART.

OHIO STATE UNIVERSITY.

STATISTICAL INDICES OF BUSINESS CONDITIONS

SUMMARY

Importance of studying statistical indices of business conditions, 522. — I. *Available Statistics*: Imports of merchandise, 524. — Exports of merchandise, 525. — Immigration, 526. — Bank clearings, 527. — Railroad gross earnings, 528. — Idle cars, 529. — New building, 530. — Commodity prices, 531. — Business failures, 531. — Stock market, 532. — Money rates, 534. — Bank loans, 534. — Pig iron, 535. — Copper, 536. — Print cloth and cloth margins, 537. — Silk, 539. — Tin, 539. — Hides and leather, 540. — Crops, 540. — Other items, 541. — II. *Some Methods of Business Forecasting*: Babson's Composite Plot, 543. — Brookmire's system, 552. — III. *Suggested Method of Obtaining Indices*: explanation, 554. — Need of more comprehensive statistical records, 562.

It is the purpose of this article to discuss the use of statistics for indicating the trend of business conditions. The first task is to ascertain what available statistics are symptomatic of business changes; the second to examine critically some of the methods by which statistics are being used at the present time for business forecasting; and the third to suggest an improved method. The subject is large and the work is still in an experimental stage; hence all conclusions must be considered tentative.

This subject obviously is not merely academic, but of large practical interest. Bankers, financiers, and the heads of manufacturing and mercantile enterprises must constantly study present conditions and future prospects. Many manufacturers, for example, buy raw materials and start manufacturing operations months before the finished goods are placed upon the market.

Plans must be made and production regulated according to the conditions which such producers expect to encounter at a later time. If they err in judgment, they are placed at a disadvantage which may prove serious. The maladjustment which occurs during a period of crisis may be disastrous. If manufacturers and merchants can be forewarned, fewer will be caught unawares and the severity of the shocks will be alleviated.

It is now generally agreed by students of the subject that the ups and downs of business prosperity are due to deep-seated influences, and business men are more and more giving up the long persisting notion that changes in business conditions are caused primarily by tariff acts, political happenings, or court decisions. More attention is being given to the symptomatic statistics currently published in the financial journals, trade publications, and daily papers. Some executives have statistical reports carefully prepared for their own businesses in order to make comparisons with previous periods and with the external statistics for other industries and trade.

The published statistics, altho inadequate for a complete analysis, furnish ample material for experimentation. Each set of statistics, however, requires careful examination; some are worthless. Moreover, of those statistics which appear to be reliable barometers of business changes, only those which are available daily, weekly, or monthly can ordinarily be used. A business man wishes current information; for him statistics which are a year old are more or less antiquated. And in studying long time fluctuations and the large trade cycles, annual figures are unsatisfactory because of the impossibility of determining to what extent the figures represent the antecedents and to what extent they represent the effects of important events happening

within the calendar or fiscal year. The annual statistics for the years 1873, 1893, and 1907, for instance, are not properly comparable in a study of crises, since the panic of 1873 began in the middle of September, that of 1893 in May, and that of 1907 in October. In the annual figures for these years the antecedents and the effects of the panics are thrown together in unequal proportions. In most instances a monthly basis of comparison seems to give the best results. With these considerations in mind we can proceed to an examination of the statistics.

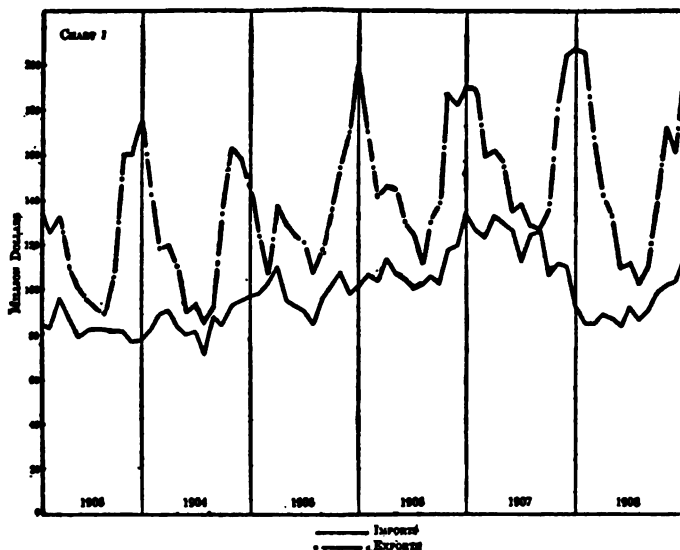
I. AVAILABLE STATISTICS

(1) *Imports of Merchandise.* The statistics for the value of merchandise imported into the United States correlate with business conditions.¹ During periods of prosperity more raw materials are bought for our manufacturing plants and the imports of finished goods for immediate consumption are also larger. During periods of depression, on the other hand, our purchases in foreign markets fall off. Altho the import statistics are affected by general changes in price level, short time comparisons can safely be made. Their most serious defect is in their susceptibility to the influence of tariff changes; but this does not destroy their worth as an index to general conditions.

In order to show the course of imports during a portion of a typical business cycle, the monthly statistics for the years 1903-08 have been plotted on Chart I. Final conclusions cannot, of course, be drawn from statistics for so short a period, but for experimental purposes these years seem to be representative. The

¹ Import and export statistics are published in the Monthly Summary of Commerce and Finance and in various financial journals.

general upward trend of the curve during the years of prosperity immediately preceding the crisis of 1907 is noteworthy. The effects of the crisis are shown in the ensuing decline. It is to be noted, also, that these statistics show a seasonal fluctuation, with a peak in March, due presumably to the importing of merchandise for the spring trade, a sag in the summer, and



another upward movement in the autumn caused by imports of merchandise for the holiday trade.

(2) *Exports of Merchandise.* For judging business conditions, the export statistics of the United States¹ are much less useful than the import statistics. The export statistics are, in themselves, less reliable because of the greater percentage of error in the returns; they are not scrutinized by the customs inspectors and there is no adequate check upon the accuracy of the exporters'

¹ The export statistics for Great Britain, on the contrary, are a particularly good index of conditions in that country, since the British manufacturers are so largely dependent upon foreign markets.

manifests. Furthermore, because of the predominance of raw materials and foodstuffs in our export trade, the volume of our exports depends largely upon conditions affecting demand from foreign countries. The movement does not necessarily indicate the strength or weakness of the domestic situation. The exports of manufactured goods tend to fall off with improvement in domestic demand and to increase during depression, when our manufacturers show their greatest interest in developing foreign trade. The course of the export trade, 1903-08, is also shown on Chart I. The marked seasonal fluctuation is due to the heavy exportation of raw cotton and other agricultural products during the late autumn and winter months.

Balance of trade statistics, which show the difference between imports and exports, seem to me to have little significance. There are so many invisible exports and imports that the balance of trade figures always involve a large element of uncertainty. How great is the foreign indebtedness upon which interest payments are due? Is the investment of foreign capital increasing or is the foreign indebtedness being paid off? What shipments of securities are being made? What transportation charges are to be paid? No record can be kept of all these transactions, which have just as much influence as the visible merchandise shipments upon foreign exchange rates and the movement of specie.

(3) *Immigration.* The statistics for immigration fluctuate in a general way with business conditions in the United States. An upward tendency was indicated, for example, during 1905, 1906, and 1907, and a marked reaction in 1908. The immigration figures are of especial interest to certain manufacturers, since they give some indication of the increase in the supply of unskilled labor. Their significance as a general index,

however, is lessened by the fact that the movement of immigrants adjusts itself only with more or less delay, according to information transmitted from this country to the foreigners before they leave their homes. The net immigration, that is the total number of immigrants less the number of emigrants, should be more significant; but the latter figures have been published only since July, 1907. A much more serious criticism of the use of immigration statistics as a business barometer is that they are influenced not only by conditions in the United States but by industrial, social, and political conditions in the countries whence the immigrants come. At best these statistics could not show a very close approximation to actual changes in business conditions in this country. At the present time, in consequence of the European war, all comparisons have become inconclusive.¹

(4) *Bank Clearings.* Because of the wide-spread custom of making payments by check, bank clearings give a fairly accurate index to the volume of business transactions. Altho influenced by general changes in prices, by bank consolidations, and by the spread of the check-using habit, bank clearings show approximately how much business is being done at any one time. As a business index, the bank clearings for the United States exclusive of New York City are more significant than the total clearings. The New York clearings, which constitute about one-half of the total clearings for the country, are so affected by the volume of speculative transactions upon the Stock Exchange that they should at least be considered separately. The clearings in other cities where stock exchanges are located are not a sufficiently large proportion of the total to necessitate

¹ Immigration statistics are currently published in numerous periodicals and also in the Monthly Summary of Commerce and Finance.

their exclusion. Bank clearings are not subject to wide fluctuations and do not indicate what is likely to take place in the future, but they do show in a general way what is taking place. The clearings statistics as reported by *Bradstreet's*, *The Commercial and Financial Chronicle*, and *Dun's Review* differ slightly in detail but approximately agree.

(5) *Railroad Gross Earnings*. Railroad traffic fluctuates with the amount of business being done in the community. As an index to the volume of traffic, since tonnage figures are not currently available,¹ railroad gross earnings are commonly used. Statistics for net earnings show the general financial condition of the roads, but are far less useful for general purposes than the gross earnings. The latter are in the same class as bank clearings, showing what is taking place but foretelling little of the future.

Because of the delay which occurs in securing reports from some of the companies, the total earnings for all the roads in the country cannot advantageously be used in studying business indices. It is necessary, therefore, to take the earnings for a representative group of roads. In the *Commercial and Financial Chronicle* statistics for the earnings of a group of roads are given monthly. These statistics are usually made up from preliminary returns and are thus, to some degree, subject to revision. The most serious difficulty however, which prevents the use, except for casual observations, of such compilations as those of the *Commercial and Financial Chronicle*, is that the make-up of the group continually changes. The number of roads included varies from month to month, yielding totals

¹ For a few years the American Railway Association has published a monthly bulletin, "Statement of Freight Car Balance and Performance," which gives, amongst other things, the ton miles of freight carried, but these bulletins appear several months late.

which usually can be compared only with the preceding month or with the corresponding month of the preceding year. Mr. Babson presents on his desk sheet a useful monthly table of the total gross earnings of ten railroads, always including figures for the same roads.

(6) *Idle Cars.* From January, 1908, to November, 1914, the American Railway Association issued semi-monthly reports on the number of idle freight cars. Since February 1, 1915, monthly reports have been issued. Altho these reports have probably been of assistance to railroad officials by furnishing a guide to traffic demands and by enabling them to secure a better balance of car supply, I am disposed to think that the statistics are much less reliable as a business index than has been commonly believed.

In the first place, the number of roads reporting has varied. On April 1, 1914, the number of roads reporting was 190; on June 1, 176; on October 1, 204; and on November 1, 192. Similar variations appear for other months. Further, in making any long time comparisons, the change in the capacity of the cars is also to be considered. But neither of these factors is so fundamental as the irregularity in the number of new cars added from year to year. The statistics for the number of freight cars idle cannot show the fluctuation in the volume of traffic and, hence, the amount of business done, when the number of cars available for service itself fluctuates irregularly. The number of idle cars depends not only upon the number actually in use, but also upon the number of new cars added and of old cars scrapped. The variations in the number of cars in service are shown by the following table, compiled from the bulletins of the American Railway Association. The wide divergencies in the number of new cars added during these years vitally affect the number of cars idle at any one time;

REVENUE FREIGHT CARS

	Cars Owned at End of Year	Increase or Decrease Dur- ing Year	Average Number Idle Per Month	Largest Number Idle	Smallest Number Idle
1908	2,077,764	+ 78,843	273,600	408,900	104,800
1909	2,049,015	- 28,749	187,800	321,800	-4,300 ¹
1910	2,162,444	+113,429	59,300	138,100	10,900
1911	2,197,399	+ 34,955	124,100	198,500	24,800
1912	2,207,516	+ 10,117	34,100	113,100	-50,600 ¹
1913	2,297,818	+ 90,302	42,200	79,400	2,200

¹ Shortage.

hence, without a statement each month of additions or withdrawals, idle car statistics should be used with extreme caution. The statistics as commonly published give us little clue as to the degree of change which has taken place.

(7) *New Building.* Numerous cities now have building regulations and require that a permit be obtained from a building commissioner before construction may be commenced. A record of these permits is kept, furnishing an index to building activity. The figures, to be sure, indicate only the plans at the time that the permit is issued and do not show over how long a period the building operations will extend or what cessations of construction occur. Nevertheless they should serve roughly as a general index.

The financial papers regularly publish compilations of statistics for new building, but not in a form for continuous comparisons. *Bradstreet's*, for example, has a monthly table of new building statistics, but the number of cities included varies from month to month, and occasionally the figures for some of the large cities are omitted, thus introducing a relatively large percentage of error. For this subject Mr. Babson also has a serviceable table on his desk sheet, which gives the value of the new building permits issued in twenty selected cities.

(8) *Commodity Prices.* Prices of commodities tend to rise during periods of prosperity and to fall during periods of depression. The most accessible general index for monthly changes in commodity prices is that published by *Bradstreet's*. The index number is in the form of the "total of the prices per pound of ninety-six articles," including breadstuffs, livestock, provisions, fruits, hides and leather, textiles, coal and coke, metals, oils, naval stores, building materials, chemicals and drugs, and miscellaneous. This method of computation permits such articles as silk cloth, which is light in weight and high in price, to exercise more influence on the totals than is exercised by the bulky staple commodities. And, so far as I know, no explanation has ever been given of the methods of finding the price per pound of eggs or per pound of oil. Ninety-six pounds of such an incongruous mixture is hard to imagine.

(9) *Business Failures.* The frequency of business failures tends to vary inversely with general business conditions. During periods of prosperity bankruptcies diminish. But as soon as depression sets in, the weaker firms, which have been able to hold on because of strong business conditions, fail in greater numbers. The statistics for business failures are a particularly sensitive index and show to what extent liquidation has progressed. They aid in forming a judgment as to when business recovery is to be anticipated.

Statistics for the number and liabilities of business failures are published by both *Dun's Review* and *Bradstreet's*. The figures from these two sources differ somewhat in detail but show the same general tendencies. The statistics for the total liabilities of failures are more commonly used than the statistics for the number of failures. The liability figures, however, occasionally show a sharp increase in consequence of a

single heavy failure which, from the general point of view, does not deserve the weight thus given it. Such experiments as I have made indicate that the statistics of failures by number correlate more closely with other business indices.¹ The statistics of business failures, like so many others, show a marked seasonal fluctuation, reaching their high point during the inventory months of December and January each year.

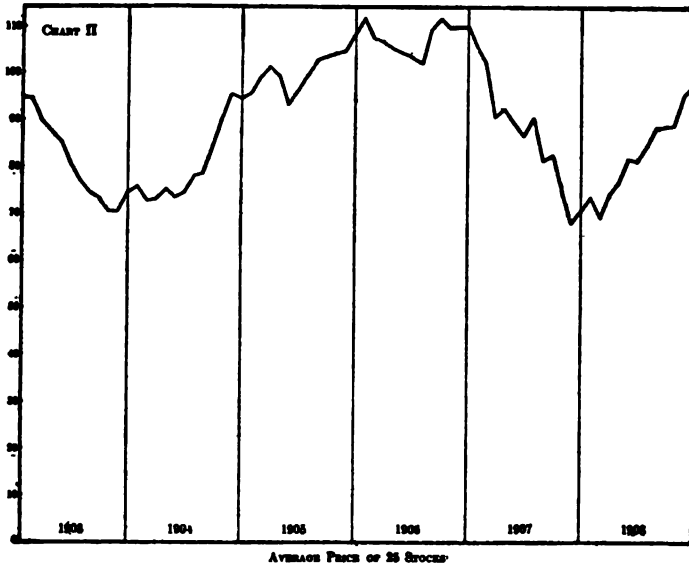
(10) *Stock Market*. Security quotations on the Stock Market fluctuate sensitively with every change and with every rumor of change in business conditions. The prices of securities rise during periods of prosperity owing to general optimism and high dividends. But when money rates begin to tighten, the stock market is one of the first indices to give warning of the coming crisis. Beginning in January, 1907, for instance, there was an almost constant decline until after the panic, as is shown upon Chart II. The curve indicates the changes in the average price of twenty-five stocks on the New York Stock Exchange.

Several stock market barometers, or indices of security prices, are published. I have used that of the *Boston Transcript*. Until the closing of the Stock Exchange in July, 1914, this barometer gave daily the changes in the average price of twenty-five stocks, including eighteen railroads, one public service company, and six industrials. These were, on the whole, well-selected and representative. The stock market index of the *Wall Street Journal* has been more commonly used for showing movements of security prices; but amongst the twelve industrials which it formerly included there was one quotation for United States Steel

¹ My tentative conclusion that the number of failures is the better index is supported also by Mr. D. R. Little, editor of *Dun's Review*, who states: "The number of failures reflects conditions more accurately than do the aggregate liabilities." *Moody's Magazine*, February, 1915, p. 79.

preferred, one for United States Steel common, one for United States Rubber preferred, and one for United States Rubber common. The weight thus given to steel and especially to rubber seems to have been unwarranted. Recently a quotation for General Motors has been substituted for United States Rubber preferred.

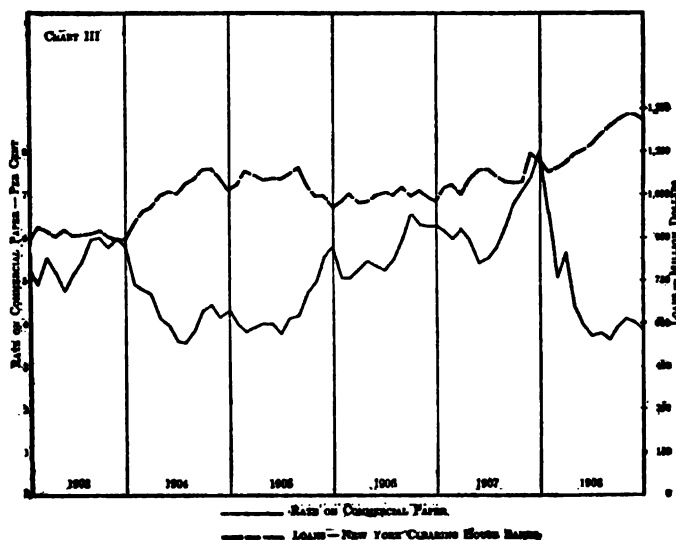
The average monthly figures which are plotted on the chart were obtained by taking an average of the Satur-



day quotations for each month. This average of the Saturday quotations varies little from an average of all the days in the month and is fully representative.

The volume of transactions upon the New York Stock Exchange is also of some value as a business index. Purely speculative influences or manipulation, however, may cause a rise or decline in the activity of the stock market, which does not correlate with actual changes in business prospects.

(11) *Money Rates.* The average rate on 60–90 day commercial paper serves as an index to money rates. The curve for money rates on Chart III has been plotted from the monthly averages given by Professor Mitchell in his *Business Cycles*.¹ This curve correlates closely with changes in business conditions, sagging at times of depression, rising gradually with increasing



prosperity, and then moving sharply upward during a crisis. It is one of our most useful indices.

(12) *Bank Loans.* Banking statistics in general have been so affected by the introduction of the new Federal Reserve system that few comparisons can safely be made with the past. Banking indices in the future can probably be worked out only after a new set of statistics has been accumulated. For purposes of illustration, however, the average loans of the New York Clearing

¹ Current figures for money rates are conveniently published in the *Commercial and Financial Chronicle*.

House banks may be taken. The course of these loans, as indicated by monthly averages of the weekly figures given in the *Commercial and Financial Chronicle*, is shown for the years 1903-08 on Chart III. It will be seen that the change from month to month is slight. In fact the relative stability of these figures during the period of rising money rates in 1906-07 gives them a peculiar significance, since it shows that the New York banks were regulating their loans with a view of just barely maintaining the required 25 per cent reserve against deposits.¹ When money rates were low, during depression, more funds were deposited in New York by the country banks and loans expanded. The banking system was exceedingly ill-adjusted for meeting an emergency.

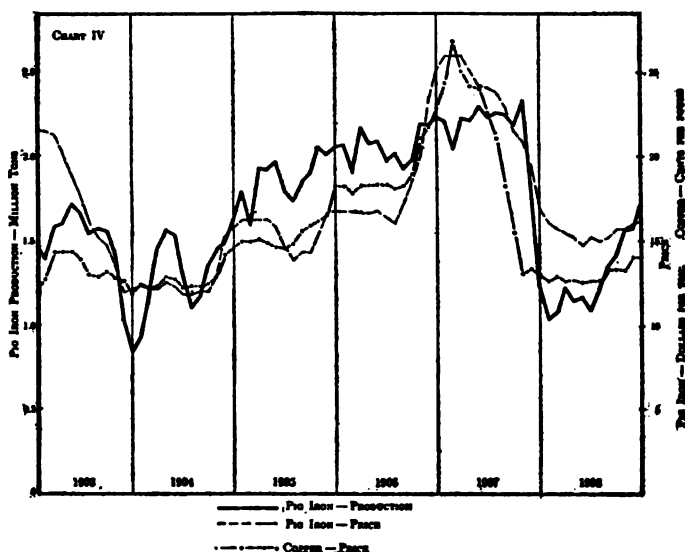
(13) *Pig Iron*. The classical business barometer is the iron industry. This industry is sensitive to changes in business conditions because of the fact that iron is used so largely for the construction of new machinery, new railway equipment, and recently for new building. The demand for iron falls off immediately when business depression begins, since additions and renewals cease. Construction work being postponable, the iron industry is one of the first to feel the effects of forced economy.

As is shown on Chart IV, the price and production of pig iron tend to move together. During periods of prosperity both production and price tend to rise, whereas after a crisis both fall. This same tendency is manifested by numerous other commodities. At times, however, price and production move in opposite directions, as, for example, when a considerable addition to the producing capacity has been made. For this reason it seems that both the price and production figures should be taken into account. So far as the years 1903-08 are

¹ O. M. W. Sprague, *History of Crises under the National Banking System*, p. 222.

concerned, attention is to be called to the rapid rise in price in the latter part of 1906 and to the decline which began in April, 1907. The price of pig iron broke in April, altho the panic did not occur until October. The production kept up until November. The statistics which were used were obtained from the *Iron Age*.¹

Another index to the conditions of the iron and steel industry is the unfilled orders of the United States



Steel Corporation, which were published quarterly till June, 1910, and since then monthly. The freedom with which cancellations are permitted in the steel trade lessens the value of these figures, but they may well be considered in connection with the prices of Bessemer billets or other steel products.

(14) *Copper*. This commodity is in the same class as iron and, since it is used for similar purposes, has become as sensitive a barometer. The greatest demand is,

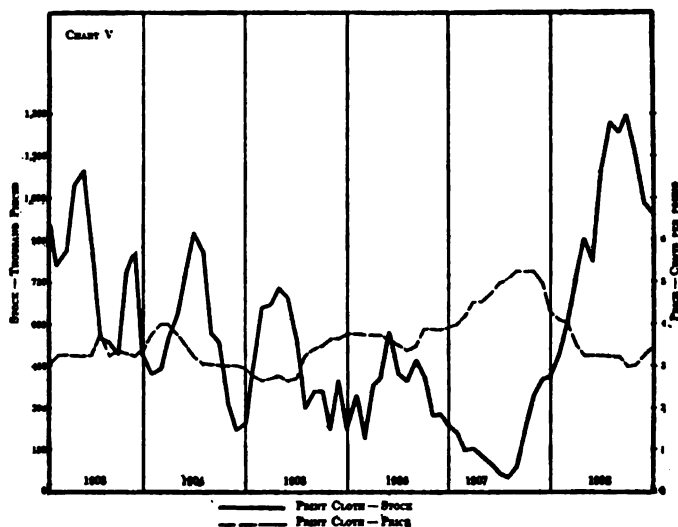
¹ The price quotations are for No. 2 Southern, Cincinnati.

of course, from the electrical industries. Statistics for the monthly production of copper in the United States were published by the Copper Producers' Association from January, 1909, to June, 1914. This period is too short to permit comprehensive comparisons to be made. The statistics for the average price of electrolytic copper, as given by the *Engineering and Mining Journal*, for 1903-08 are plotted on Chart IV. The general movement of the price of copper was similar to that of the price of pig iron, but the former broke in March, 1907, one month earlier than pig iron.

(15) *Print Cloth*. For the textile industries and the dry goods trade few indices are now available. Price quotations and weekly statements of the sales of print cloth in Fall River are published in the *New York Journal of Commerce* and elsewhere. These sales statistics are not strictly accurate and there is no check to show the percentage of error. They should indicate roughly, however, the general condition of the trade in cotton cloth. Under ordinary conditions the sales are in part for future delivery, the deliveries extending over two or three months, and after delivery the cloth must be converted, that is printed. Hence the volume of sales indicates the outlook in the dry goods market.

The price figures represented by the curve on Chart V are the averages of the Monday quotations for 28 inch, 64 x 64 print cloth. The activity of the mills and the strength of the market in 1906-07 are reflected in the rise in price, this rise holding until after the panic actually occurred. The sales had been heavy in 1906 and the first half of 1907, and fell off in July of the latter year only because the mills were getting so far behind on their deliveries. In fact premiums were being offered to the mills on orders for immediate delivery.

This demand for cotton cloth had nearly wiped out the stocks of cloth on hand in the leading primary markets,¹ as is indicated by the curve for stocks of print cloth given on Chart V. These statistics are perhaps not as accurate as those for sales, but undoubtedly show the general situation. The market decline to the low point in July, 1907, is especially significant when considered in connection with the price curve. The



accumulation of stock after the panic shows that it was then that over-production occurred, and has a strong bearing upon the general theory of crises.

Another index of the condition of the cotton manufacturing industry is the margin between the price of raw cotton and the price of cloth. This is found by deducting from the price of cloth the cost of the quantity of raw cotton required to manufacture that cloth.

¹ The primary markets are New York, Boston, Providence, and Fall River. These statistics were compiled from the tables in several editions of A. B. Shepperson's *Cotton Facts*.

This margin covers the manufacturing expense and the manufacturer's profits. In the months preceding the panics of 1893 and 1907, there was in each instance a sharp rise in this margin.¹ The margin reached its lowest point when the depression was most severe.

(16) *Silk*. The condition of the silk industry should be shown approximately by the imports and prices of raw silk. All of the raw material used in the industry in this country is imported, and the importations adjust themselves fairly closely to the demand from the manufacturers. In fact this is probably a better index to the industry than any figures for production would be, since the products are highly diversified. During the months preceding the panic of 1907 relatively large imports were received and there was a marked rise in price, the highest point being reached in May, 1907, after which a fall began.²

(17) *Tin*. As another illustration of the use of statistics of imports and prices for a raw material not produced in the United States, tin may be taken.³ The domestic production of this commodity is negligible. The imports of tin, like those of silk, fluctuate somewhat irregularly, owing probably to the irregularity in the arrival of the ships in which the material is carried. But they were heavy in 1906 and the first part of 1907. The price of tin also showed a striking rise during the boom period preceding the panic of 1907, with a slight break in June and the beginning of a sharp decline in August of that year.⁴

¹ A chart showing this margin for the years 1881-1910 is given in my book, *The Cotton Manufacturing Industry of the United States*, p. 174.

² The statistics for imports are published in the *Monthly Summary of Commerce and Finance*, and the price statistics in the *New York Journal of Commerce*.

³ Price statistics from *Engineering and Mining Journal*.

⁴ The statistics from which these conclusions for tin are drawn were collected by several students in my class in *Business Statistics* in the Harvard Graduate School of Business Administration. Other students have collected figures on cotton cloth prices and margins and on the prices of hides and leather, which have been of assistance.

(18) *Hides and Leather.* For the shoe manufacturing industry no statistics of production, sales, or prices are now to be had, and for hides and leather the only figures are for prices.¹ The most sensitive price statistics appear to be the quotations for Packers' No. 1 hides and Buenos Aires sole leather. Each of these fluctuates with the conditions in the industry, and in 1905 and 1906 both showed a general upward movement which culminated in January and February, 1907. The drop which occurred in the following months presaged still greater weakness in the future.

One complex phenomenon stands out clearly in a study of the price movements for these various commodities. The breaks in some instances preceded the panic by several months, whereas for other commodities the prices held up till the panic actually occurred. Through a more exhaustive study it may be possible to arrive at definite conclusions with reference to the laws of sequence. In other words, a correlation may be established which will serve as an accurate index to events likely to follow in the future. For this purpose an investigation of the changes in the prices of individual representative commodities will clearly yield better results than a study of a composite index number of prices.

(19) *Crops.* The prosperity of the country is dependent in no small degree upon the agricultural crops. Abundant crops mean better supplies of food for the population and more raw materials for the manufacturers of flour, cotton cloth, and other products. They also mean more purchases by the farmers of commodities of all sorts and more freight for the railroads. Unless the agricultural sections of the country are prosperous business is inevitably dull.

¹ Dun's Review; Shoe and Leather Reporter.

So far as my investigations have gone, it appears that the best index to the farmer's prosperity is the average yield per acre. True, the price which the farmer receives is an important factor, and is not to be neglected. But the higher prices in years of short crops are beneficial to only a portion of the farming community. If some farmers receive relatively large amounts for their crops while others have their incomes seriously curtailed, the gross amount of farmers' purchases is no greater and the distribution is not normal. An even distribution is most beneficial to business in general.

There is the additional difficulty, when attention is given chiefly to the prices for agricultural products, of ascertaining what proportion of the crop is sold at each price. Just how much the farmers receive is more or less in doubt. Further, production is to be watched with caution, because it does not adjust itself to price changes in the same way as the production of pig iron, for instance. The forces of nature influence the agricultural yield. Altho further investigation is needed to prove conclusively whether the yield per acre or the total yield and the price statistics are most significant, crop statistics of some kind clearly ought to be considered in any study of business indices.

(20) *Other Items.* In addition to the above indices there are several others for which statistics may be had after some delay or for which incomplete statistics are available. Unemployment statistics are a valuable index, as is proved by the report issued from month to month by the British Board of Trade. In this country, unfortunately, no unemployment statistics are currently available. The Massachusetts Bureau of Statistics has published quarterly statements on unemployment since March, 1908. The New York Bureau

of Labor keeps monthly records of unemployment, but up to the present time these have been published only after so long an interval as to give them little more than historical interest.

For lumber some scattered statistics of production and shipments are published and also some price statistics. Unfortunately the quotations for lumber prices in trade papers are not altogether reliable. Judging from the statistics given in Part IV of the Bureau of Corporations' *Report on Lumber*, accurate price statistics for certain grades of lumber, especially for the common grades of fir and pine, would be as valuable indices as are the price statistics of other commodities.

Newspaper and book-paper prices are regularly published, but they too seem to be unreliable. Furthermore, paper is sold largely upon contracts extending over a year or more, so that the prices are somewhat inflexible. The American Pulp and Paper Association has been collecting reports of production and these were for a time published.¹ From such material as is available, it appears that the paper trade is sensitive to fluctuations in general business conditions. The volume of advertising which the newspapers and magazines carry varies with business prospects and the size of the publications is thereby affected. When business is brisk there is also a greater demand for paper for posters, circulars, advertising booklets and for other purposes. For advertising itself some statistics are available,² but not enough to be of much service as yet.

The National Association of Wool Manufacturers began in December, 1913, to collect quarterly reports of the number of cards, combs, spindles, and looms in operation and idle in the woollen and worsted mills. If these reports are continued, they should prove

¹ In the *Paper Trade Journal*.

² *Printers' Ink* gives monthly tables.

valuable indices, even if they are not upon a monthly basis.

It is apparent, I think, from what has been stated in the foregoing paragraphs, that there is now abundant material for experimentation on this subject of business indices. In order to use these statistics properly some common basis of comparison is needed, which will not only provide a common denominator but which will also take into account the seasonal fluctuations. It is of vital importance to know whether an increase or a decrease represents a normal seasonal fluctuation or whether it represents a fundamental change in conditions. We now turn to a critical examination of the attempts which have been made to provide such a common denominator and to construct business barometers.

II. SOME METHODS OF BUSINESS FORECASTING

The systems of business forecasting which are now in use are open to criticism in two directions: (1) their selection of statistics and (2) their statistical methods. Such criticism does not imply a lack of appreciation of the useful service done by these "barometers." Their pioneer work has been especially valuable in creating amongst business men a more wide-spread interest, and a broader recognition of the fact that crises and depressions are not caused by politics or accidents.

(1) *Babson's Composite Plot.* One of the best known business barometers is that prepared by Mr. Roger W. Babson, who also publishes a very serviceable compilation of monthly statistics on his *Desk Sheet*. Statistics for twelve subjects are used in the preparation of this barometer, — (1) immigration, (2) new building, (3) liabilities of business failures, (4) bank clearings, exclu-

sive of New York City, (5) Bradstreet's index number for commodity prices, (6) surplus reserves of the New York Clearing House banks, (7) foreign money rates, (8) domestic money rates, (9) conditions of crops, (10) idle cars, (11) political factors, (12) stock market conditions. The first four are grouped together as representing mercantile conditions, the second four as representing monetary conditions, and the third four as representing investment conditions.

From what has been said in the preceding pages it is evident that these statistics vary greatly in significance. Immigration, for example, is a much less reliable index than bank clearings or domestic money rates, and idle car statistics are altogether unsatisfactory. Furthermore, the methods of obtaining statistics for three of the subjects are open to serious criticism. In order to get an index for foreign money rates the official rates of the Bank of England, Bank of France, and Reichsbank are averaged. Such an average does not seem to me statistically sound, since the policies of these banks are by no means the same. The Bank of France, for instance, sometimes puts a premium upon gold deliveries instead of changing the discount rate. For crops only corn and wheat statistics are used. The cotton crop, which provides about one-fourth of our exports and affects so large a section of the country, is not included. The estimated crops of corn and of wheat, in bushels, are added together, despite the fact that in this way corn is given a weight four times that of wheat, which sells at considerably higher prices per bushel and is more of a cash crop. Corn should be given a weight not over twice that of wheat. As previously stated, the figures for total production seem to me less satisfactory for this purpose than the average yield per acre. "Political factors," finally, cannot be measured statistically,

and to include such a subject indicates a startling disregard for scientific method. An index on such factors could, at best, be only guess work.

Both Babson's selection of subjects and his treatment of the figures are open to criticism. If only twelve subjects were to be used in preparing the business barometer, these twelve should have been the most sensitive and the most trustworthy. Babson's selection seems to me to fall far short of that requirement. It is especially notable that no strictly industrial statistics are used. The selection of subjects, however, is open to less criticism than the methods of manipulating the statistics.

In order to secure a common basis of comparison for these diverse denominations and to eliminate the effects of seasonal fluctuations, a set of intermediary "scale" figures was worked out.¹ Taking immigration for illustration, a table of scale figures was prepared for each month. For January the highest and lowest figures for the month of January during the years of 1898-1908 were found, — 18,300 in 1901 and 56,200 in 1905. The range between these two figures was taken as equal to 100 points. The difference between the two actual figures (37,900) was divided by 10. By adding this quotient, 3,790, to 18,300, the point ten "degrees" above the lowest was found, and by repeating the process the entire scale was built up in arithmetical progression until it reached the highest actual figure, 56,200. The same scheme was used in working out a scale for each month. For February the lowest and highest figures for immigration in the month of February, 1898-1908, were found and a 100 point scale similarly ascertained, and so on for the other months. Thus there is a separate scale for each subject for each month.

¹ "Preparing the Composite Plot," Babson's Reports, 1912.

To quote Mr. Babson's own explanation:¹ — "We then arrange the scale figures in column, placing zero over the column whose average approximates most closely to the average conditions of the years 1903 and 1904, — that is the depression following the 1903 panic. This date is taken arbitrarily as the starting point of the Barometer. We then place our index figures in series to the left and right of zero. If the volume of business increases so as to go beyond the scale, higher scale figures are added, using the same arithmetical progression as at first, so that the actual condition of the years 1898–1908 serves as a *constant* by which to compare succeeding years. Scales similar to this one on immigration have been prepared for all subjects."

As an example of the way in which the immigration scales for January, February, and March are worked out the following table is given.

	Jan.	Feb.	Mar.
+60	56,200	68,700	139,100
+50	52,410	64,170	128,440
+40	48,620	59,640	117,780
+30	44,830	55,110	107,120
+20	41,040	50,580	96,460
+10	37,250	46,050	85,800
0	33,460	41,520	75,140
-10	29,670	36,990	64,480
-20	25,880	32,460	53,820
-30	22,090	27,930	43,160
-40	18,300	23,400	32,500

On each scale the range would not necessarily be from - 40 to + 60, but in every case it would have a range of 100 points, with the lowest actual figure for that month, 1898–1908, at the bottom, the highest actual figure at the top, and "zero" fixed by the figures for 1903–04.

¹ "Preparing the Composite Plot," Babson's Reports, 1912.

This scale is then used for determining the index figure for the current month. For January, 1914, for example, the number of immigrants was 44,700. This evidently falls between + 20 and + 30 on the January scale for immigration. 41,040 corresponds to + 20 on that scale. Subtracting from 44,700, the difference is 3,660. The last figure is then divided by 379, which is the value of each degree on the scale. The quotient, 9.6, is added to + 20, giving an index of + 29.6 for immigration in January, 1914.

An index number is similarly worked out for each of the subjects, by finding the scale figure to which the actual figure for the month of January, 1914, corresponds. Each month in each year is handled in the same way.

For business failures, surplus reserves, and idle cars, inverted scales are used, since these subjects vary inversely with business conditions. But for surplus reserves, when the figures fall below a certain point, weakness rather than strength is indicated, hence, to quote Mr. Babson again, "below \$5,000,000 this subject is put upon what we call a *deficit* scale, declining quickly to zero as the reserves are wiped out and reading - 66 for a deficit of \$50,000,000, as in November, 1907." Similarly "when money rates for the best commercial paper reach about 5 per cent — an average occurring only in a period of excess loans — the scale figures begin to work downward again, for the 'lack of confidence' shown by the high rate overshadows the 'excess of business' feature shown by a majority of other subjects. On this panic scale the index moves to - 60 rapidly when rates advance from 5 per cent to 8 per cent or above." Both of these scales are purely arbitrary adjustments.

Having found the index for each of the subjects for a certain month these figures are averaged, giving double

weight to bank clearings, domestic money rates, and the stock market index. The final figure thus obtained is the index to business conditions. Before undertaking to examine the use which is made of this summary figure, let us make a critical examination of this method of securing index numbers.

In the first place, it is evident that the index numbers are in no sense percentages. Since the lowest point is not zero, they do not show even the percentage of the range above the lowest points. The index numbers depend upon this range and upon the location of the zero point. The question of whether or not 1903-04 can fairly be assumed to have been representative of normal conditions for all of these subjects is of minor importance. The heart of the problem is the method of determinating the range upon which the scale figures are based.

The use of the range between the highest and lowest figures for each month over a ten-year period as a base for the scale figures presupposes that there were no abnormally high and no abnormally low figures in any instance. If in any month one subject showed an exceptionally high figure because of extraordinary circumstances which did not affect the other subjects and which had no influence in other months, the range was thereby made abnormally wide. The scale figures and the index numbers determined from such a range are not properly comparable with those for other subjects and for other months. The range, in other words, may be said to have been placed at the mercy of the extraordinary events during this ten-year period. As a matter of fact, a little experimenting will show that the exclusion of a single high figure, using instead the one next in order, materially modifies the scale figures for any subject.

Take the liabilities of business failures, which showed as its high point \$100,045,440 in October, 1907. The greatest force of the panic was then felt by that subject. Altho in the following months failures were heavier than prior to the panic, they by no means exceeded the averages for the respective months to anything like the same degree as in October. Consequently the scale for liabilities of business failures for October is not fairly comparable with the failures scales for the other months. Again, as has already been shown, the approach and the effects of the crisis were not felt synchronously to the same degree by all the subjects. Domestic money rates, for example, reached their highest point in December, 1907,¹ and security prices their highest point in September, 1906. A brief examination of the statistics for the other subjects will show that there was no such correlation in their fluctuations as to warrant the use of this method of establishing a common basis of comparison or to justify the averaging of the index numbers.

The summary index figure which is obtained by averaging the index figures for the twelve subjects does not, therefore, indicate the percentage of anything, nor does it show the percentage change from month to month. It merely gives the average of the figures obtained by the use of this questionable range-scale method.

The summary figure is obtained solely for making the Composite Plot. The theory which underlies the Composite Plot is that in business, as in the physical sciences, "action and reaction" are equal and that the summary index figure for the twelve subjects measures business

¹ From the explanation which has been given of the "deficit scale" used for money rates when they rise above 5 per cent, the latter figure must have been taken as the maximum in fixing the scale. If this same plan were to be commonly followed, the scales would become entirely arbitrary, depending upon the judgment of the person who made them out.

action and reaction so accurately that we can foretell the amount of depression which will compensate for a preceding period of prosperity.

Tho the rythmic movement in trade cycles is not to be disputed, it is more than doubtful whether there is a law applicable to our ultra-complex economic life which causes an exact balancing of action and reaction. Some forces may tend to counterbalance each other at one time, and yet not at another. Furthermore there may be long delays in the manifestations of the resultants of certain forces. And even granting that a definite law of this kind is at work, are the twelve subjects for which statistics are used by Mr. Babson so representative of all business conditions and forces that we can base hard and fast conclusions upon them? Are the statistics themselves so free from error that they can serve as exact measures? Is the method of reducing these statistics to a common basis so scientifically accurate that the final composite index number deserves confidence? It is obvious that each of these questions must be answered in the negative.

Finally, the Composite Plot itself is to be considered. To obtain this the summary index numbers are plotted as for an ordinary graph, with the additional provision of a line of "normal growth," — the X-Y line. This X-Y line is an essential part of the Composite Plot, since some of the subjects tend to show an increase from year to year in consequence of the growth of the country. If it were not for the growth of the country, the curve plotted from the index numbers would fluctuate above and below a straight line parallel to the base line. The line of "normal growth," however, must move upward in order to show a proper balance.¹

¹ It should be noted that for five of the twelve subjects there is no normal growth, but only fluctuations around the constant level. Money rates, for instance, do not necessarily increase with the growth of the country.

As the summary index numbers are plotted upon the chart, a part fall above the X-Y line and a part below. There develop, consequently, a series of areas bounded by this curve for summary index numbers and by the X-Y line. These areas alternate above and below that X-Y line. Those above are positive and represent action; those below are negative and represent reaction. Since action and reaction are to be equal, the positive and negative areas must be equal. They are not regular in depth or breadth but equal only in area. For a current month this Composite Plot is assumed to show the position in which the business world is with reference to the business cycle. From this Plot, it is assumed, one can judge how much positive or negative area can be expected to develop before a change sets in. The Plot does not indicate in any way whether this development is likely to be rapid or slow, whether the "reaction" will be sharp and quick or slow and long.

Obviously the relative size of the areas above and below the X-Y line depends upon where that line is placed. When this Plot was first published, the X-Y line was straight. Its direction had been determined by carrying the Plot back over several years and drawing the line of normal growth in such a way that equal positive and negative areas would be shown.

Until January, 1913, the line continued to be straight, running diagonally at an angle of about ten degrees from the horizontal. Events, however, were causing unequal areas to develop and a readjustment was necessary. Modifications in the direction of the X-Y line were introduced, causing long, irregular fluctuations. Had the direction of the line remained unaltered, the appearance of the plot at the present time would be quite different. Now the direction of the X-Y line is changed as occasion requires. To quote from an ex-

planation issued by the Babson Statistical Organization: "After considerable study of the different subjects, it seems clear that the subject most successful as an indicator . . . is the volume of bank clearings for the country, excluding New York. . . . But as it is always dangerous to use one subject alone and especially a subject reflecting surface movements, it is necessary to take bank clearings as an indicator only, and to check conclusions based upon it at the end of each year by all the important barometers of wealth which are reported annually, and again at the end of each cycle, as shown by the areas of the Composite Plot. *Therefore, on our Composite Plot, the line X-Y is now drawn so as to make the areas equal,*¹ with special attention to the cycles."²

In other words, without offering a detailed explanation, the X-Y line is now adjusted from time to time according to bank clearings, one of the twelve subjects used in obtaining the barometer figure, and, in the long run, the line is drawn so as to make the positive and negative areas equal. In last analysis therefore, the whole scheme turns upon the X-Y line, which is readjusted more or less in accordance with what the manipulator thinks that the chart ought to show.

(2) *Brookmire's system.* The other system of forecasting which I shall examine here is that of the Brookmire Economic Chart Co. In this system there are three composite indices and no single plot. No attempt is made to lay down rules that the indices must always react upon each other in the same way or that any hard and fast law is to be followed. It is recognized that many forces are at work which cannot be expressed statistically but which must be taken into consideration in judging the probable course of business conditions.

¹ The italics are mine.

² "How the Line of Normal Growth 'X-Y' of the Composite Plot is Located," Babson's Reports.

In obtaining the Business Index the following statistics are used: ¹ total bank clearings in the United States, bank clearings exclusive of New York City, commodity prices, railroad gross earnings, new building (70 cities), pig iron production, pig iron price, price of Bessemer billets, unfilled orders of United States Steel Corporation. For the Stock Market Index, the average price of twenty railroad stocks and twelve industrials is computed; and for the Banking Index, use is made of loans, deposits, reserves, ratio of reserves to loans, and rate on commercial paper.²

The method of reducing these statistics to a common basis has been explained by Mr. Brookmire as follows: "In combining these banking indices it was necessary to create a common scale on which to place each index before averaging them all together. I decided to take a period beginning with 1900 and find the average figure for each index taken. This 'normal' or 'zero' point is the place where the points of each index used fall half above and half below the normal line. For example, the 'normal' or 'zero' point of the loans to deposits graph is 98.5 per cent for the period 1900 to 1912. This 'normal' or 'zero' point is the starting point of the new combined index."³ That is, the median is apparently used as the standard in working out the scale.

In criticizing this system of forecasting, attention is first to be called to the limited number of subjects included and to the omission of all crop statistics. But, here again, the main criticism lies against the technical methods used in making adjustments for seasonal fluctuations and for normal growth. For those statis-

¹ J. H. Brookmire, "Financial Forecasting," *Moody's Magazine*, January, 1914, p. 8.

² *Ibid.*, June, 1913, p. 444.

³ *Ibid.*, June, 1913, p. 444.

tics which manifest a seasonal fluctuation, the seasonal variation is calculated and, before the index is prepared, the statistics are "compensated" in accordance with these calculations. Owing to the nature of the statistics a certain percentage of error must be involved in these calculations and compensations.

As regards "normal" growth, the rate of annual increase in those figures which are influenced directly by the progressive advance of the country is also calculated, and the figures are "stepped down" before using.¹ Since so many diverse forces affect these statistics, a rate of "normal" annual increase can, at best, be only an approximation; whereas the system presumes to make a nice adjustment. Obviously both the "compensation" and the "stepping down" are somewhat arbitrary, depending more or less upon the judgment of the person preparing the index. A system in which the personal element is dominant, as in this case, is always open to doubt. It does not tell its whole story upon its face.

III. SUGGESTED METHOD OF OBTAINING INDICES

It is apparent, from the criticisms which have been made in the preceding section, that one of the fundamental problems in preparing indices of business conditions is to secure a common denominator which will allow for normal growth and seasonal fluctuations without leaving any of the adjustments or compensations to personal judgment or manipulation. To achieve this end I suggest the following method.

For each subject let a monthly index number be obtained by dividing the actual figure for the month by the average for that month during the ten preceding

¹ J. H. Brookmire, "Financial Forecasting," *Moody's Magazine*, June, 1913, p. 444.

years. This is illustrated by the following table, which gives the ten-year monthly averages, the actual figures, and the index numbers, for one item, namely bank clearings, exclusive of New York City; the period covered being the years 1913 and 1914. The figures for clearings are from *Bradstreet's*.

BANK CLEARINGS

	Month	Base (Average for Month, 1903-12) ¹	Actual Figures ¹	Index Number
1913,	January	4,903	6,739	137
	February	4,142	5,670	137
	March	4,728	6,100	129
	April	4,612	6,090	132
	May	4,565	6,025	132
	June	4,549	5,831	128
	July	4,639	6,080	131
	August	4,350	5,492	126
	September	4,407	5,841	132
	October	5,162	6,859	133
	November	4,913	6,157	125
	December	5,041	5,536	130
		Base (Average for Month, 1904-13) ¹		
1914,	January	5,193	6,687	129
	February	4,392	5,500	125
	March	4,985	6,263	126
	April	4,794	6,218	130
	May	4,732	5,797	122
	June	4,767	5,968	125
	July	4,872	6,180	127
	August	4,577	5,233	114
	September	4,657	5,269	113
	October	5,460	5,981	110
	November	5,180	5,551	106
	December	5,321	5,979	112

The ten-year average for the month of January, 1903-12, was \$4,903,000,000; the actual amount for January, 1913, \$6,739,000,000. Dividing the latter by the former, an index number of 137 is obtained. This

¹ In millions.

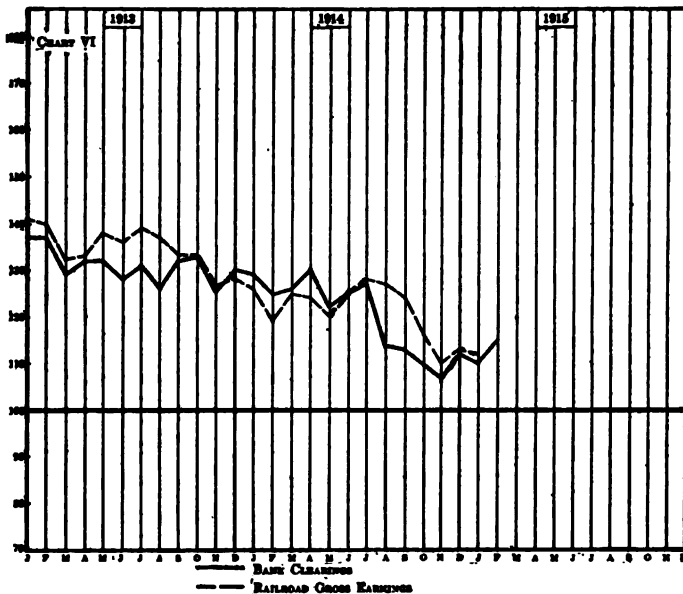
means that in January, 1913, bank clearings were 37 per cent above the ten-year average for that month. The ten-year average for February, 1903-12, was \$4,142,000,000 and the actual amount in February, 1913, \$5,670,000,000, which also gives an index number of 137. Similarly for each month in 1913 the actual number is divided by the average for that month during the years 1903-12. For January, 1914, the actual amount, \$6,687,000,000 is divided by \$5,193,000,000, the ten-year average for January, 1904-13; and a similar base is used for the other months in 1914.

By means of this moving base the comparability between the index number for December, 1913, and that for January, 1914, is maintained. The basic months used in obtaining the index for January, 1914, bear the same relation to the basic months used in obtaining the index number for December, 1913, that the latter bear to the basic months for November, 1913. By using the ten-year monthly averages, seasonal fluctuations are automatically allowed for, and by always taking the ten preceding years as the base, provision is made for normal growth.

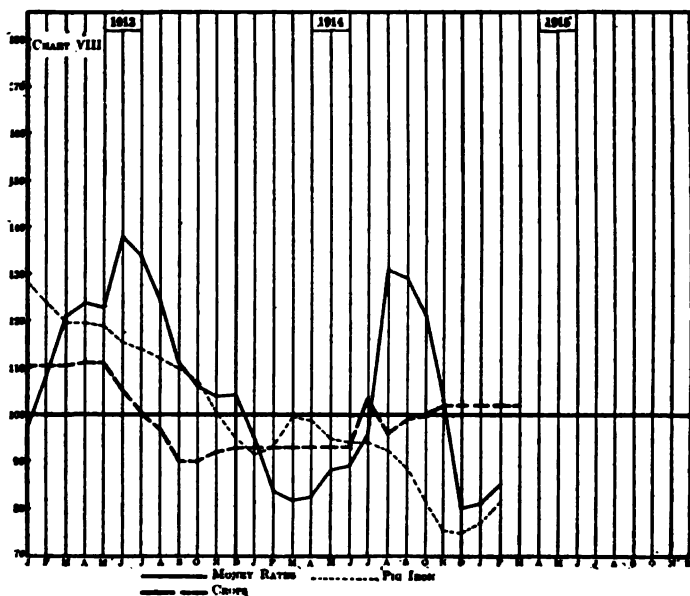
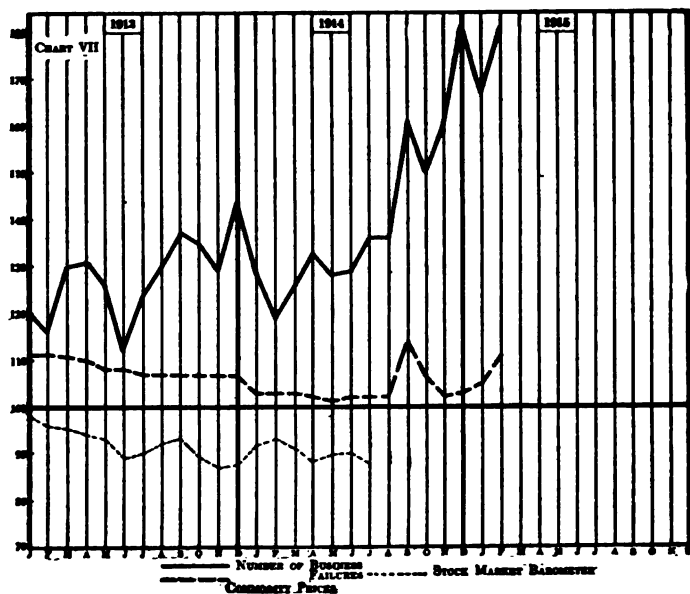
The ten-year monthly average represents a normal standard, whether the figures tend to increase or to fluctuate about a constant level. For the purpose in hand this moving base seems superior to a fixed base and certainly it is more reliable than any arbitrary scale. It may prove advisable to use a fifteen or a twenty-year period in determining the bases, in order to reduce the influence of exceptional years. The principle, however, will remain the same. The ten-year period facilitates the use of those statistics which have not been collected for a longer time and, from numerous experiments which I have made with a wide variety of statistics, the ten-year period appears to be satisfactory.

In plotting the index numbers I have in each case represented 100 by a heavy line. This is the norm shown by the ten-year monthly averages. As long as a curve remains above this line, the figures are above normal, that is, above the ten-year average for the corresponding months.

The general method is illustrated by Charts VI, VII, and VIII, which show the course of the index numbers for bank clearings, railroad gross earnings, number of business failures, commodity prices, stock market,



money rates, crops, and pig iron. The war has brought hardships untold to the statistician who wishes to study the indices of business conditions. It has led to the discontinuance of certain statistics, and a change in the form of others. The Copper Producers' Association, for example, ceased publishing figures for the production of



copper. The *Boston Transcript* reduced the number of stocks used in obtaining its barometer from twenty-five to twenty, and several other sets of statistics were upset. The charts here represented are only a part of those which have been worked out in my experiments, but they will suffice to explain this method of presentation.

The bank clearing statistics used are those published monthly by *Bradstreet's* for the United States exclusive of New York City. The statistics for the number of business failures and also the index number for commodity prices are from *Bradstreet's*. Railroad gross earnings are for ten roads as given on Babson's desk sheet. The stock market barometer is that of the *Boston Transcript*. Money rates are represented by the average monthly rate on 60-90 day commercial paper in New York. For each of these subjects the index numbers from which the curves were plotted were obtained by dividing the actual monthly figures by the averages for the corresponding months during the ten preceding years.

For pig iron an index number for production was worked out upon the same general plan. Then in the same way an index number for price. In order to get a single index number for pig iron which should show the net result of changes both in production and in price I have averaged the production index with the price index. For example, the production index for January, 1913, was 157.5, the price index 99.5, and the average index, therefore, was 128.5. It may prove better to use these two indices separately, but this combined index seems worth trying and watching.

For crops the index number has been prepared first for winter wheat, spring wheat, corn, and cotton. Other crops might be added, but these serve to represent the conditions in the great agricultural sections of the country. During the growing season the condition

reports of the United States Department of Agriculture are used. The index number for each of these crops for each month during this season is found by dividing the condition figure for the month by the ten-year average for the same month. When the final report of the Department of Agriculture is issued the yield per acre is taken as the best index and the index number for each crop is found by using as a base the average yield per acre for that crop during the preceding ten years. From December, when the final report of the Department of Agriculture is issued, till the new condition reports begin in the following spring, the index numbers for the crops remain constant. These constant index numbers during the winter and early spring give a proper representation of conditions, since the influence of the crops on the markets is practically without change during that time.

After the index for each of these crops was prepared, a weighted average was taken.¹ Winter wheat was given a weight of one, spring wheat one, cotton two, and corn four. This weighting corresponds roughly to the relative total value of each of these crops. The final weighted average was taken as the crop index, which was to represent trade conditions in the leading agricultural districts.

Looking at the charts here given, it is apparent, I think, that they fairly represent some of the conditions prevailing during this period. The indices for bank clearings and railroad gross earnings (Chart VI) correlate closely and show the general trend of events. The number of business failures (Chart VII) has been relatively high throughout, jumping sharply upward after the outbreak of the war. As regards the future, in

¹ Further experiments are being carried on to ascertain whether an average index or a separate index for each crop is more satisfactory.

view of the length of time during which failures have been relatively heavy, this is a favorable indication; there has been an unusually severe liquidation and the weak spots must have been pretty thoroly cleaned out. The price index tended to fall until the war came. The stock market showed continued depression.

Chart VIII is, perhaps, most helpful in interpreting the general course of business during these months. The rise in money rates in the early part of 1913, was due to the Balkan war. This was probably one of the primary causes of the business depression which began in the United States early in 1913. The decline later in the year was accompanied by a brightening of business prospects in the fall of 1913. Most industries showed an appreciable improvement about September of that year, but this improvement did not hold. The sharp decline in crop prospects which began in June, 1913, at just the time when the index for money rates was at its highest point accentuated the depression which was setting in and helped to cause the slight crisis of that month. The relatively poor crops, as indicated by this curve, show why there was not more recovery in the fall and winter of 1913 and why business was depressed during the entire spring of 1914. Since other factors were favorable and the crop outlook brighter in the summer of 1914 conditions appeared ripe for at least a moderate business recovery. The breaking out of the European war, however, suddenly tightened the money market and upset the whole business world.

The pig iron index is added to this chart, not as an index of all industry, but as an illustration of this method of comparison. One of the merits of this form of presentation is that the various factors can be studied separately and evaluated. A composite index figure for numerous diverse subjects may cover up significant

changes, which cannot properly be considered as counterbalancing each other.

At the present time satisfactory and reliable statistics are available for only a very few industries. We have no adequate record of the changes which are taking place from month to month in the symptomatic manufacturing industries and in the wholesale and retail trades. But before we can thoroly understand the complex causes of industrial crises, we must know vastly more of the actual conditions in various industries and trades. Possibly we shall no longer have serious panics, thanks to our new banking system; but we shall unquestionably be subject to fluctuations in industry, and probably crises will recur from time to time. Measures to prevent serious depression must reach much farther than to the banking system. Altho crises are manifested most strikingly in the financial field, which serves to bind together the whole business world, they have their roots and causes in industrial conditions. Hence the sooner the collection of more comprehensive statistical records for industry and trade is begun, the earlier can we acquire a thoro knowledge of the fundamental forces which affect business prosperity.

MELVIN T. COPELAND.

HARVARD UNIVERSITY.

WAGES BOARDS IN AUSTRALIA: IV. SOCIAL AND ECONOMIC RESULTS OF WAGES BOARDS

SUMMARY

Introduction, 563. — 1. The abolition of sweating, 564. — The elimination of home work, 569. — 2. Wages and working conditions, 572. — Are wages brought to a level by wages boards? 578. — 3. The displacement of labor, 583. — The old and slow workers, 584. — Displacement of men by women, 591. — Of women by men, 592. — Of Europeans by Chinese, 594. — 4. Effects on industry and industrial growth, 596. — Competition with other states, 600. — The limitation of apprentices, 602. — 5. The growth of trade unions, 606. — 6. Relations between employers and employees, 610. — The infrequency of strikes, 611. — 7. Enforcement of wages board legislation, 617. — 8. Public opinion and the wages boards, 621. — Wages boards *v.* Compulsory arbitration, 627.

IN attempting to evaluate the work of the wages boards or to describe the results which this mode of wage regulation has had on the prosperity and welfare of the people, we must guard against the assumption that we can speak with certainty as to the final consequences of this legislation. As Sir Henry Wrixon said ¹ when the continuation bill was up for discussion in Parliament in 1900, the real operations of such laws are not revealed in a few years and may not surely be known in the course of one generation.

While fully admitting the tentative character of our conclusions, we may nevertheless say that the eighteen years of experience which the state of Victoria has had with wages boards offers the safest basis on which to form an opinion as to the results of this method of wage

¹ See this Journal for November, 1914, p. 40.

regulation. For not only has the Victorian experience been of longer duration than that of other states but it has been on a more extended scale and has persisted along the same lines from the beginning. South Australia and Queensland, after several futile efforts to inaugurate the wages boards system and after several years of more or less successful operation of their laws, have seriously modified if not transformed their plans by the introduction of compulsory arbitration. New South Wales added the special boards to her arbitration scheme but has never been free from the influence of the arbitration court. The experiences of Tasmania, Great Britain and some of our own states with wages boards have been entirely too brief to satisfy us as to the results. Whenever the experiences of other states and countries show the same results as appear in Victoria, we may say that they serve to strengthen our opinions of the success or failure of the Victorian legislation; but it is the Victorian experience which must afford the main reliance for such conclusions as we are now willing to formulate.

1. *The Abolition of Sweating*

The intention of the legislatures in all states and countries which have adopted the wages boards plan was to abolish sweating in certain trades and industries. It seems proper, therefore, that we should first inquire: how successful has the law been in accomplishing its main purpose?

Mr. Ernest Aves, who visited Australia in 1907, and made a careful investigation for the Home Department of Great Britain into the workings and results of wages boards and arbitration courts, was inclined to the opinion that the wages boards in Victoria had only

partially succeeded in overcoming the sweating evil.¹ Conditions, he said, had undoubtedly improved in the various branches of the clothing trade and also in bread-making, but Mr. Aves felt by no means certain that the improved conditions were due entirely or mainly to the Special Boards and he felt that should a prolonged trade depression occur, some reduction in the average wages paid might be expected to take place, especially among the home workers. On the other hand, he was willing to admit that the influence of the board rates like a long-established custom, would exercise a healthy restraint on the downward tendency should wage reductions become necessary.

Dr. Robert Schachner, a German economist who spent several years (1905 to 1907) in Australia and New Zealand, studying labor conditions and working part of the time as a laborer in various industries, was also of the opinion that the sweating evil had been only partially overcome. He mentions the women's clothing industries and book-binding as examples of trades in which sweating still continued.²

Much the same opinion seems to have been held by a careful American investigator, Dr. Victor S. Clark, who visited Australia in 1904 in order to conduct an investigation for the United States Bureau of Labor. He gives several instances to show that sweating was still in existence in Melbourne in the clothing trades at the time of his visit but he admits that "the general condition of operatives in these occupations has probably been considerably improved by the act."³ On the

¹ Aves, Report to the Secretary of State for the Home Department on the Wages Boards and Conciliation and Arbitration Acts of Australia and New Zealand (London, 1908), pp. 71-77.

² Schachner, *Die Soziale Frage in Australien und Neuseeland* (Jena, 1911), p. 244.

³ Clark, Labor Conditions in Australia, Bulletin of United States Bureau of Labor, no. 56 (January, 1906), pp. 71-72.

other hand, another American investigator, Mr. Harris Weinstock, who visited Victoria in 1909, in his report to the Governor of California says: "The consensus of opinion of all interested parties is that wages boards have so largely minimized sweating that it is no longer an evil in Victoria, where the 'sweater' has become a somewhat rare species."¹

The reports of the chief factory inspectors in the Australian states would certainly lead us to believe that sweating had been reduced to a minimum, if not entirely eliminated.

Mr. Harrison Ord, the Chief Inspector for Victoria, after reporting progress in this direction for several years, was able to make the following statement for the (men's) clothing trade as early as 1900:

I venture to affirm that there is now no sweating in the clothing trade in the State of Victoria. . . . In the short space of three years the whole circumstances of the trade have been changed. No complaints are now heard of gross sweating, or of clothes made in miserable homes for a more miserable wage. Many of the difficulties to which I referred in my report of 1898 have disappeared. The Department has little trouble in enforcing the Determination of the Board. The average wage paid will show that the majority of the men and women employed receive more than the minimum wage.²

In the following year (1901) Miss Mead, one of Mr. Ord's inspectors, had this to say concerning the under-clothing trade:

No change has been made in the Determination. Manufacturers continue to fix their own piece rates based on 4d. (8 cents) per hour for an average worker. I find that the work is most carefully timed and paid for accordingly. . . . Many of the notorious "sweaters" have settled down to fair prices, a few who at one time gave out work now make it up themselves instead of sub-letting it, while

¹ Weinstock, *Special Labor Report on Remedies for Strikes and Lockouts* (Sacramento, 1910), p. 72.

² Report of the Chief Inspector of Factories for 1900, p. 17.

others have disappeared entirely from the trade. Complaints re sweating are conspicuous by their absence.¹

This testimony of the inspectors in regard to the above branches of the clothing trades is fully confirmed by the reports of other investigators in regard to the same and other trades. Thus, the Report of the Royal Commission of 1902-03, an unusually sober document, by no means free from criticism of the wages boards, said with reference to the clothing trade:

To sum up the evidence in this trade, sweating in its worst form, which brought misery into so many homes, has almost disappeared, and if undercutting, and the payment of unduly low wages still exists, it is chiefly in the case of a few outworkers who act in collusion with their employers.²

The same report said of the underclothing trade:

Workers themselves admit that there is a great improvement in their earnings. Such of the old sweaters as still remain in business have settled down to the payment of fair wages while others have disappeared from the trade.³

Of the shirt-making trade it was said that, —

It will be admitted as a fact beyond dispute that in this trade the factory law has broken down a hideous form of sweating, and protected in no small degree an industrious and deserving class of women.⁴

Evidence furnished by later investigators offers no contradiction to these early optimistic reports as to the success of the boards in preventing sweating. When I was in Victoria in 1912, not only the factory inspectors but the men who had been most deeply concerned in the movement to prevent sweating, Mr. Samuel Mauger, Secretary of the Anti-Sweating League, Dr. Charles

¹ Report of Chief Inspector for 1901, p. 39.

² Report of the Royal Commission appointed to Investigate and Report on the Operation of the Factories and Shops Law of Victoria, p. xli.

³ *Ibid.*, p. xliii.

⁴ *Ibid.*, p. xlii.

Strong, one of its early presidents and promoters, Mr. Alfred Deakin, Rev. A. R. Edgar and Sir Alexander Peacock were unanimous in the opinion that sweating no longer existed in Melbourne and its suburbs, unless perhaps in isolated instances in industries not yet brought under the influence of a wages board's determination. The Anti-Sweating League still maintained an existence not only to exercise a watchful eye over the administration of the Factories Act but also to bring to the attention of Parliament the needs of new boards in industries where wages seemed to be unduly low. Trade-union secretaries when asked whether they considered that "sweating" had been eliminated by the wages boards usually replied that in the sense in which that term was popularly used it had been, but that in many industries wages were still below what trade unionists regarded as reasonable rates of pay.

In other wages boards states than Victoria, while there were no serious complaints in regard to sweating, the conditions in the trades in which sweating is most likely to occur did not appear on the whole to be as favorable for the workers as in that state. In South Australia the delay in securing boards or in securing a revision of the rates fixed by the first boards in such trades as dress-making, millinery, shirt-making and white goods, and ready-made clothing, kept the wages in these trades abnormally low. Especially in the millinery business was the situation bad. The board itself had fixed the minimum rates "for females of the age of 21 years for the first, second and third years respectively" at the ridiculously low rates of 5s. 6d. (\$1.33½) and 8s. (\$1.94) a week. The determination was referred by the Minister to the Court of Industrial Appeals which confirmed it as issued by the board. "Wages in this trade," said Mr. Bannigan, the Chief Inspector,

"are the poorest of all callings, the highest rate fixed being only 16s. 6d. (\$4) per week which is out of all proportion to the ruling rates in other classes of trade."¹

In New South Wales the wages in most trades, especially those in which the workers are well organized, are fully as high as in Victoria, but the trades in which women are largely employed do not appear to be as much under the influence of wages board determinations as they are in Victoria. I was surprised to find, in several instances when in company with the inspectors I visited factories in which many females were employed, that for these workers no wages boards had as yet been established.

Closely connected with the problem of sweating is that of home work. It was the workers in their own homes, it will be remembered, who were the chief victims of the sweaters prior to the passage of the wages board legislation. It was the hope of the reformers that legislation would force these workers into factories where the hours of work and sanitary conditions could be more easily regulated. That the number of home workers did as a result of the determinations rapidly decline for a time in most lines of industry in which they were employed seems indisputable. This in some instances seems to have been due to the fact that the piece-work rates (by which alone the home workers are paid) were fixed on a basis higher than the time rates in factories. This had the effect of causing the manufacturers to employ workers in factories by preference.² Perhaps fully as influential as the change in wages in bringing about this result was the change

¹ Report of Chief Inspector of Factories in South Australia for 1911, p. 7.

² Reports of Chief Inspector of Victoria, 1897, pp. 6-7; 1898, pp. 9, 20-21; 1899, pp. 15-16; 1903, p. 26.

in methods of production whereby the work of manufacture was subdivided and the principle of team work introduced. This necessitated conducting the work in factories where the workers carrying on the different processes of production could maintain an even pace. This same change from home work to factory work, as is well known, has taken place in countries like our own where no wages boards have been in existence.

Of late years the decline in the number of registered home workers in the clothing trades of Victoria has been checked and there has been even a considerable increase. Thus in 1907, the Chief Inspector of Factories reported 1,455 registered home workers, all but 24 of whom were employed in various branches of the clothing trades, and he declared this to be "a larger number than has been registered for some years."¹ The only explanation offered for the increase was that "more work is being given out owing to the difficulty of securing enough workers to work in the factories."² By 1911 the number of registered out-workers had increased to 1,929, but the growth in numbers was explained by the fact that an amendment to the Factories Act forbade "the giving out from any factory of any work on clothing except to a registered out-worker" and this increased the number of registrations and gave the inspectors a more complete oversight of the out-workers.³

The number of home workers regularly employed at their own homes in New South Wales was 730 in 1910, which represented an increase of 90 over the preceding year.⁴ They were nearly all found in Sydney, and were

¹ Report of the Chief Inspector for 1907, p. 62.

² Ibid.

³ Report of the Chief Inspector for 1911, p. 28.

⁴ New South Wales Statistical Register for 1910, Part vi, p. 608; 1909, p. 537.

principally females employed in the manufacture of clothing and textile fabrics.

In South Australia there was an apparently enormous decline in the number of home workers from 1,075 in 1907 to only 20 in 1908. But the explanation for this is found in the fact that after 1907 only those home workers were required to register who were "engaged in the manufacture of articles for factories or shops" and this, as Mr. Bannigan said, reduced the number to "almost the vanishing point."¹

In Queensland the reduction in the number of home workers as a result of the wages boards' determinations has been very great. The Director of Labour in his report for 1913 says that the number of home workers in the ready-made clothing trade had fallen from 140 in 1909, the year before the award was made by the board, to 20 in 1913. He explains the decline as follows:

I think the decrease may be attributed to the fact that the occupiers find it entails a very great amount of work keeping tally of the parts made by the workers, and also they consider the piece-work rate too high for the working of their indoor or outside workers. The award piece-work rates are not in force in a single factory in Brisbane; all are on weekly wages.²

But while, generally speaking, the determinations of the wages boards seem to have reduced, for a time at least, the number of home workers in the clothing trades, the determinations in certain other trades had the opposite effect. In the wicker trade of Victoria, for example, a wages board which had been formed in 1902 made a determination which increased the average weekly wage from £1, 2s. 11d. (\$5.57) to £1, 6s. 2d. (\$6.54). There was keen competition in this trade

¹ Report of the Chief Inspector of Factories in South Australia, 1907, p. 2.

² Report of the Director of Labour and Chief Inspector of Factories and Shops in Queensland for 1913, p. 24.

with Sydney manufacturers who at the time were independent of any board award. The result was that the Melbourne manufacturers reduced the number of hands in their factories to less than half the number formerly employed and according to one of the inspectors,

The result has been that all those who have been thrown out of the factories have started on their own, and work all hours with the result that they undersell those who have to pay wages and work limited hours.¹

2. *Wages and Working Conditions*

It is not possible in the compass of a single paper to show by means of statistics what effect the determinations of wages boards have had upon wages. Indeed, so numerous are the trades and the various branches thereof, so variable the number of workers, so diverse the modes of payment and so important the other elements entering into the situation, that it is doubtful whether even a complete tabulation of the changes made in the wages of the workers by the wages boards would throw any considerable light on the question as to what results have been achieved by this mode of wage regulation.

The Statistician for the Commonwealth of Australia, Mr. G. H. Knibbs, a careful and scholarly investigator, has prepared a table which shows the variations in wage index-numbers in the different Australian states from 1891 (before there was any wages board or arbitration court in existence) to 1912, when all the states as well as the Commonwealth had tribunals for the regulation of wages. The table was prepared on the basis of average wages in 1911, the number, 1,000 being taken as the index-number for that year in all the states.

¹ Report of the Chief Inspector of Factories in Victoria for 1902, p. 31.

VARIATIONS IN WAGE INDEX-NUMBERS IN DIFFERENT STATES,
1891 TO 1912¹

(Wages in 1911 = 1,000)

Particulars	No. of Occupations included	1891	1896	1901	1906	1907	1908	1909	1910	1911	1912
New South Wales...	158	858	819	855	883	907	910	939	965	1,000	1,055
Victoria.....	150	801	768	808	819	870	884	900	938	1,000	1,054
Queensland.....	87	910	874	908	911	916	927	948	962	1,000	1,013
South Australia.....	134	801	803	809	821	847	857	893	939	1,000	1,035
Western Australia...	69	887	908	913	914	914	921	927	969	1,000	1,034
Tasmania.....	54	939	854	899	937	906	906	915	966	1,000	1,168
Commonwealth.....	652	848	816	848	866	893	900	923	955	1,000	1,051

The table shows that the relative increase from 1891 to 1911 was greatest in Victoria and South Australia (the first states to establish wages boards) and least in Tasmania, where no tribunal for the regulation of wages existed during those years. But between 1911 and 1912 Tasmania showed the most remarkable increase of any of the states, an increase amounting to nearly 17 per cent. "This," says Mr. Knibbs, "is no doubt accounted for to a large extent by the fact that the wages board system was first adopted in Tasmania in that year."²

Without pretending to deny the accuracy of this conclusion as to the effect of the wages board system in Tasmania, it may be well to point out that this table gives evidence in itself as to how unsafe is the *propter hoc ad hoc* method of argument in such cases.

The lowest point reached in the wage scale in nearly all the states, as here shown, was in the year 1896. But the index numbers show that the increase of wages

¹ From Knibbs, Report no. 2, Labour and Industrial Branch of Commonwealth Bureau of Census and Statistics (April, 1913), p. 26.

² Trade Unionism, Unemployment, Wages, Prices and Cost of Living in Australia, 1891 to 1912, Report no. 2 of Labour and Industrial Branch of the Commonwealth Bureau of Census and Statistics, pp. 26-27 (Melbourne, April, 1915).

in Tasmania between 1896 and 1901 or between 1896 and 1906 was greater than in any other state, altho Tasmania was at the time without any method of legal regulation of wages; while it was during these years that the machinery for regulating wages was put in operation in all the other states, with the exception of Queensland.

In the review of the work of the various boards which for years has been carried in the annual reports of the Chief Inspector of Factories in Victoria, the attention of the reader is directed to the average weekly wages paid to employees in the trade the year before the determination came into force and then to the average weekly wage paid in the same trade the year in which the report was made.

The change is nearly always in the direction of an increase. Aside, however, from the fact that changes in the proportion of skilled and unskilled workers, or of men and women employees, or of adult and juvenile workers, will affect the average wage in the trade without necessarily affecting the wages of individual workers, it must be remembered that the period since 1896, when the Victorian wages board legislation was enacted, has been a period of rising wages and prices the world over. Therefore without any legislation the average wages in these Victorian trades might naturally be expected to have risen. Furthermore, the wage statistics for the trades for which no boards were provided almost universally show the same upward movement of wages. The question therefore becomes one of the relative rates of increase in the regulated and unregulated trades.

Mr. Aves in his report ¹ has made a study of the variation in wages in selected board trades both before and

¹ *Op. cit.*, pp. 28-31.

after the determinations came into force and has also shown the variations in selected non-board trades. He shows that for male employees in thirteen board trades the advances in wages previous to the determinations amounted in the aggregate to 7.6 per cent on the combined average rates of the trades, while in nineteen board trades after the determinations came into force the aggregate advance was 16.5 per cent on the combined average rates, and in twelve non-board trades the aggregate advance was 11.6 per cent on the combined average rates.

For female workers the advance of wages in the after-determination period in six trades was equal to 10 per cent on the combined averages and in twelve non-board trades the advance was equal to 8.8 per cent on the combined averages. Taken in connection with other wage statistics¹ these figures seem to show in a fairly conclusive manner that the determinations of the wages boards have been a contributing influence in the wage increases which have taken place.

The task of the wages board is of course not to establish a rate for all workers in a given trade or to concern itself with average rates in that trade, but to establish the minimum wage which may be paid to the workers generally in the trade for which the board is appointed, or various minima for the different branches of the trade or for different groups of workers classified according to sex, age and experience. It has seldom happened that a wages board has reduced wages either for the trade generally or for any particular branch of the trade, altho it has occasionally happened that the effect of a board's determination has been to reduce the average wages paid, since employers after the determinations were made replaced adult male workers by women workers or

¹ See especially the Aves Report, p. 43.

by apprentices or by so-called "improvers," that is employees who have not yet had the necessary experience to enable them to earn the wages of a fully experienced worker.

There is no guidance in the statutes as to the principle on which the minimum wage should be fixed. The only thing of this sort which has been attempted was the amendment to the Victorian law in 1902, which instructed the boards to ascertain the average rate or wage "paid by reputable employers to employees of average capacity" and to fix the minimum wage or rate no higher than such average rate. The same requirement was copied into the factories acts of the other states having the wages board plan. Inasmuch as the statutes did not attempt to define the word "reputable," it cannot be said that Parliament had done much in the way of furnishing a guiding principle to the boards. The clause, however, proved very embarrassing to the boards in their work. It meant in practice that a board could not raise the rates above the current rates in the trade without putting itself in the embarrassing position of claiming that most employers were not reputable. Accordingly in all states this provision of the law was repealed.

In the absence of any guiding principle the boards have been free to act according to whatever principle they saw fit to adopt. Generally speaking they have not consciously followed any principle, but wages have been established in accordance with the bargaining powers of the respective sides. The decisions of the arbitration courts, especially those of the Commonwealth Arbitration Court, in which Mr. Justice Higgins has set forth so clearly the principles which he has followed in establishing a minimum wage, have undoubtedly exercised considerable influence on wages

board determinations, but only by force of example and not because of any legal compulsion to follow these precedents. In turn it may be said that the judges in the arbitration courts have frequently been influenced and guided by the determinations of the wages boards.¹

Altho originally established to provide a minimum rate of wages in the trades in which wages were below the sum necessary to provide a decent subsistence for the worker, wages boards in Australia have long ceased to be guided by the notion of a subsistence wage. The workers in the strongly organized trades would not consider it worth their while to struggle to secure a minimum wage which was merely a subsistence wage. The wage for which they contend is the standard rate or wage, the one which will become the prevailing rate or wage in the trade in question. The result is that minimum rates of pay are established in the same way and on the same basis as they are established under voluntary collective bargaining where both employers and employees are well organized. Employers who at first strenuously objected to this have ceased to urge their objections and now recognize that so long as their competitors are obliged to pay the same wages there is little reason to fear the standard rates. At times when they have had reason to feel that the rates were fixed too high by the board, and that in consequence they would be unable to compete with outsiders, the employers have appealed to the Court of Industrial Appeals for a reduction of the rates fixed by the board. Reductions have been made by the Court in Victoria in the following trades or occupations: artificial manure, boiler-making, bread, builders' laborers, commercial clerks, fell-mongers, fuel and fodder, and ice. In one or two

¹ For a statement of the principles followed by the arbitration courts in fixing wages, see my article on "Judicial Determination of the Minimum Wage in Australia" in *American Economic Review*, June, 1913.

other trades, certain employees have secured from the Court an advance in wages over those allowed by the boards, but this advance has been due to a readjustment of the board rates in the various branches of the trade rather than to any intentional design on the part of the Court to raise wages above those established by the board.

Statements are frequently made that any system of wage regulation through wages boards or compulsory arbitration is bound to exercise a leveling effect upon wages. The original intent of the law, it is said, was to establish a minimum wage which should afford a decent subsistence to the worker but which should by no means represent the maximum wage in the trade or even the average wage. The board, however, under the strong pressure of the workers' representatives is led to fix the minimum so high that, it is claimed, employers can pay it only by bringing down the wages of the most competent workers to the rates established by the board for the less competent. In other words, the minimum wage becomes the maximum, and it is held that there is no incentive for the ambitious worker to put forth his best efforts. That this is one of the results of wages board determinations is an opinion which has been held by more than one investigator ¹ and it is even now shared by many men in Victoria, not only by employers but by men prominent in public life like Messrs. Deakin, Peacock, and Watt, who have been and are still friendly to the wages board plan.

In spite of this strong support given to the theory, it appears to be one which is supported by *a priori* arguments rather than one based on the proof of actual experience. No doubt boards have at times made the

¹ Clark, *op. cit.*, pp. 65-66. Schachner, *op. cit.*, pp. 246-247. Report of the Royal Commission of 1902 in Victoria, pp. xxxviii, xiv, xlix.

mistake of setting the minimum rate too high, — a rate at which it was profitable to employ only the best employees. Perhaps at other times, altho the minimum fixed was low, some employers have taken advantage of it to reduce the wages of their workers. But in a country in which labor is as scarce as it is in most trades in Australia this has not been the usual result of a wages board determination. Several times in talking with employers who held such opinions as the above, I have asked them whether in their own factories the majority of the employees were working at the minimum rates. Invariably it has turned out to be the case that few if any of their own employees were working at rates as low as the minimum established by the boards. Of course in those trades where payment by the piece prevails, there is no danger of equality of earnings. But even where time wages are the rule, there is no good and sufficient reason why the regulation of wages by wages boards should cause wages to seek a level.

Employers are not obliged under minimum-wage laws to retain in their employ any one who is unable to earn the minimum fixed by the board, nor do they as a matter of fact do so. On the other hand, there is no reason why men whose superior ability has enabled them prior to a determination to earn a wage in excess of the minimum fixed by the board should allow their wages to be brought down to the legal minimum merely because their employers may have been compelled to raise the wages of those employees who had been paid less than the minimum established by the board. In the highly sweated trades, where advantage had been taken of the individual's poverty and weakness, the first effect of the determinations was undoubtedly to raise the wages of most of the employees. In this way the wages may be said to have been "leveled up," *i. e.*,

the gap between the poorest-paid and the best-paid workers was lessened.

This would account for such a condition as was described by the Royal Commission of 1902, which discovered that "there are clothing factories where no woman or girl receives more than 20s. a week" (the minimum wage fixed by the board).¹ Evidence furnished to the Commission showed that in this industry many if not most of the employees had been receiving less than 20s. a week prior to the determination. There was no evidence that the wages of the more competent workers had been reduced, but employers who were obliged to pay the legal minimum to all their hands introduced the task system, *i. e.*, they required a certain minimum output in return for the 20s. wage.²

The testimony of the factory inspectors and the wages statistics collected by them do not bear out the contention of those who claim that the wages boards' determinations tend to level wages. In Victoria the late Mr. Ord said in 1901: "The special board system has now been in force in a few trades since 1897 and I have no hesitation in saying that the minimum wage is never the maximum wage," and he quotes both the minimum and the average wages in several of the board trades to confirm his statements.³ Mr. Bannigan, the Chief Inspector in South Australia, said with reference to the first determination in the clothing trade:

So far I have not heard of any case of levelling down of the higher paid workers and the increased wage fixed for the lower-paid hands has merely resulted, so far as can be seen at present, in a demand for more experienced workers.⁴

¹ Report of Royal Commission of 1902, p. xxxviii.

² *Ibid.*, p. xi.

³ Report of the Chief Factory Inspector for 1901, pp. 11-12.

⁴ Report of the Chief Inspector of Factories in South Australia for 1905, p. 2.

The later wage statistics, so far as can be ascertained, tend to support this view of the inspectors that wages are not brought down to the level established by the board's determinations. Unfortunately, the method of presenting wage statistics in Victoria and other Australian states is not one which brings out the effect of a determination as it would be brought out if classified weekly wages or classified weekly earnings were given. The annual reports of the inspectors' office in Victoria show in one set of tables the minimum rates established by the boards in the various trades for which wages boards have been provided. In another table the average weekly wage for the trade as a whole is shown; the workers being classified only according to sex and age. In most of the trades, however, not one minimum wage is fixed for adults but several minima according to occupation or the nature of the work. Comparisons can only be made, therefore, between minimum wages and average wages and then only in those trades in which the adult workers are unclassified and one minimum wage has been fixed for all the adult males or all the adult females. In a few cases, however, comparisons may be made in this way for trades in which a considerable number of workers are employed. In the following table, unless otherwise stated, the figures refer to adult male workers.

Those who have been led to believe that the determinations of wages boards tend to establish one level wage for all workers irrespective of their abilities, have apparently been influenced by the fact that in nearly every industry where time wages prevail the great majority of the workers in any given occupation receive the same weekly wages, and since in the trades governed by the special boards this standard wage or rate of pay is generally the minimum wage fixed by the board, the

**COMPARISON OF THE MINIMUM WAGES AND THE AVERAGE WAGES
IN CERTAIN TRADES IN VICTORIA**

Occupation	Date of Determination	Minimum Wage fixed by Special Board	Average Wage for 1913	No. of Workers on which Average is based	Hours of Work
	d. m. yr.	s. d.	s. d.		
Bill posters	18 10 '13	51 0 \$12.39	52 9 \$12.82	41	48
Boot makers	1 1 '13	54 0 13.12	57 0 13.85	2,723	48
Bread carters	16 8 '12	48 0 11.66	49 2 11.95	540	60
Commercial clerks	31 3 '13	48 0 11.66	62 6 15.19	1,476	48
Coopers	5 4 '13	66 0 16.04	67 8 16.44	111	48
Furniture makers (male) ..	1 11 '12	57 0 13.85	62 1 15.00	960	48
(Female)	1 11 '12	27 6 6.68	30 6 7.41	26	48
Jam trade workers	22 2 '13	48 0 11.66	50 9 12.83	196	48
Livery stable employees ..	19 8 '12	42 0 10.21	45 10 11.14	137	65
Milliners (female)	3 11 '13	25 0 6.08	32 1 7.82	456	48
Office cleaners (male)	10 11 '13	42 0 10.21	48 5 11.77	5	50
(Female)	10 11 '13	22 6 5.47	24 5 5.93	25	30
Painters	1 11 '12	60 6 14.60	61 3 14.88	383	44
Underclothing workers (female)	1 12 '10	20 0 4.86	24 1 5.85	951	48

investigator concludes that the determination is responsible for the uniform rate of payment. What he fails to notice is that there is the same uniformity in trades in which there are no wages boards, provided the wages are paid on the time basis. Employers cannot measure individual variations in productivity unless they are very pronounced, or unless the piece-rate method of payment is employed. Accordingly they fix a certain wage which they offer to men whom they suppose to possess at least average ability and which, generally speaking, these men accept. This condition is not peculiar to Australia. It is fully as true of time wages in our own country, and the larger the establishment the more uniform are the wages paid to the workers in any given class or occupation.

3. *The Displacement of Labor*

The most serious charge brought against the method of regulating wages by wages boards is that it causes loss of employment to those who are unable to earn the minimum wage. It seems somewhat inconsistent for those who claim that wages board determinations result in a leveling of wages to claim also that they cause loss of employment, for if employers reduce the wages of the more competent workers in order to pay the minimum to those less competent, it is clear that there is no excuse for dismissals.

The friends of the wages board generally admit that one of the effects of the legislation has been a certain displacement of labor. In the case of piece-rate workers it is said that this need not be the result. Even tho the rate per piece be increased by the determination, the old, slow or physically unfit workers may continue at work, for the piece-work rates are fixed on the supposition that a worker of average ability working at these rates can earn the minimum wage which the board had agreed to. In the case of those whose pay is measured by the day or the week, however, there are bound to be some whose services are not worth to the employer even that wage which a special board might decide to be necessary to maintain a decent subsistence.

The point at which a man's inability to produce enough to make it worth while for his employer to continue him in his service is one which, of course, is reached sooner or later by nearly every worker who engages in manual labor, and the "dead line" in industry is one which is faced by wage-earners in every land. The most that can be said against a minimum-wage law in this respect is that it is likely to bring the old and naturally slow worker face to face with the situation

resulting from his loss of earning power sooner than might otherwise be the case. The character and position of such a man is well described by Mr. Bannigan, the Chief Factory Inspector of South Australia, in his annual report for 1908.¹

The first sign of decreasing usefulness in the male worker generally occurs at about the age of fifty, when the sight begins to get troublesome for indoor work, and thereafter he finds it difficult to keep pace with the bustle of factory life and gradually drifts out of it to give place to younger and more active men.

The Factories Act of 1896 in Victoria, which provided for the first wages board, made no provision for the workers who were unable to earn the minimum wages fixed by the several boards. Whether the framers of the act failed to see that a displacement of some of the workers would be one of the results of the establishment of the minimum wage, or whether they believed that the advantages of having the great mass of the workers paid living wages would outweigh the disadvantages of having a certain number of inefficient workers lose employment and be cared for by their friends or by the state, does not appear from the debates. It has been said that the friends of the wages boards thought that old age pensions would cure the evil, but it is more likely that this was an after-thought rather than a deliberate purpose. The Victorian old age pension law was not in operation until 1901, nor was there any old age pension law on the statute books of any Australian state at the time the Factories Act of 1896 was passed.

Whatever may have been the thought or intentions of those who framed the law, those who were called upon to administer it were confronted with the fact of displacement as soon as the determinations had been made and had gone into effect, and the question arose as to how

¹ P. 1.

the interests of the old, infirm and slow workers were to be protected.

The difficulties during the early years seem to have been largely in the clothing and the boot trades. In the latter trade the position of the slow workers was made more difficult by the fact that the introduction of machinery was itself tending to displace labor.¹ The Royal Commission of 1902-03 reported that

When the minimum wage was enforced in 1898, one of the largest employers, with a staff of 280, stated he had dispensed with 60 to 70 hands; another with a staff of 200 had dismissed 20, while a third who gave work to 160 persons expressed the opinion that one out of every eight adult males in the trade had lost their (*sic*) employment and had never regained it.²

Mr. Ord attributed the difficulties in both the boot and clothing trades to the fact that the piece-work rates were fixed too high and were not based strictly on the minimum wage. In the absence of any statutory authority he refrained from prosecutions when old and infirm workers were employed at lower wages than those fixed by the boards and he even granted permits to these old and infirm workers to continue at work at rates which were specified in the permits. He did not feel at liberty, however, to assume the responsibility of dealing in the same way with the workers who were naturally slow. In spite of the admitted defects of the law and the suffering caused, the Chief Inspector did not think that the interest of the old and slow workers should be allowed to break down the law. He said:

It has been my duty to listen during the past year to many of the histories of the old and slow workers. No duty I have ever had to perform has been so painful to me and no one feels more than I do that some provision should be made for such workers. At the

¹ Report of Inspector Hall in Report of Chief Factory Inspector of Victoria for 1897, p. 9.

² Report of the Royal Commission in Victoria, 1902-03, p. xxxvi.

same time, it is not desirable that they should be made use of for attacking the minimum wage if, as in the case of the Boot Board, the evidence is against their being employed whether there is a minimum wage or not, owing to there being a larger number of young men available than are required for the trade.¹

In neither the bread trade nor in the shirt trade, where the piece rates had been based on the minimum wage, were there any difficulties at this time with the old, slow or infirm workers,² but in the furniture trade there was the same difficulty as in the boot trade and for the same reasons.³

The Act of 1900 granting to the Chief Inspector the power to issue a license to aged or infirm persons to work at less than the minimum rate but at not less than the rate named in the license solved the problem for the old and infirm workers (but not for the slow ones) in a manner which to Mr. Ord seemed quite satisfactory. He issued sixty of these permits between May 1st and December 31st, 1900, and reported that the majority of the permit workers themselves received the licenses in the most friendly manner and apparently without any feeling of humiliation. Some employers sought to take advantage of the system by sending their employees to get permits at rates at which the employees themselves refused to work and which the Chief Inspector would not countenance. The men nevertheless were able to secure work at the rates named in the permits.⁴ This effort to take advantage of the permit system by employers appears in other trades⁵ and in the reports from other states.⁶

In 1901 Mr. Ord again referred to the permit workers in these terms:

¹ Report for 1898, pp. 12-13.

⁴ Report for 1900, p. 13.

² *Ibid.*, pp. 6, 15.

⁵ Report for 1904, pp. 20-23.

³ *Ibid.*, p. 17.

⁶ Report of Chief Inspector in South Australia for 1908, p. 4; Tasmania, for 1911-12, pp. 18, 24.

It is frequently still stated at public meetings that the board system prevents old and infirm men from obtaining work. I have never heard of such a case and probably I see more of such workers than any one in the state.¹

Again in his Report for 1902² he states that he had granted during the year 227 licenses in the 29 board trades in which there were about 30,000 workers whose minimum wages had been fixed by the determinations, and there was "not the slightest foundation" for the statement that the special board system was hard on the old and infirm workers. On the contrary, he said:

I have reason to believe that these workers obtain better wages than they would if the rates of pay were not fixed by Special Boards, and that they have less difficulty in obtaining employment than old and infirm workers in trades not under the board system.

Once more, in 1905, Mr. Ord referred to the "vague impression" among business men in Melbourne that the fixing of wages by special boards was injurious to the old, slow and infirm worker and he said:

I desire to again state that I do not believe there is a single case of such a kind, and if any one knows of any such worker being injured I will undertake to at once remove all cause of complaint if the name and address of the person is forwarded to this office.³

The officials now in charge of the factory inspectors' office in Melbourne express in more moderate language the same opinion held by Mr. Ord, namely, that the extent of the displacement of the old and slow workers by the minimum wage is not great. Mr. H. M. Murphy, Mr. Ord's successor as Chief Inspector, has recently written to the New York Factory Investigating Commission, in reply to a question asked, as follows:

Legislation which fixes a standard wage undoubtedly has the effect of displacing the unfit. Our experience, however, shows that this dislocation is not serious, and that as a rule things regulate

¹ Report for 1901, p. 12.

² P. 13.

³ Report for 1905, p. 8.

themselves fairly satisfactorily. It is true, however, that in Victoria for some years there has been a shortage of labor, and this fact probably has a good deal of bearing on this point. I do not think there is any evidence that philanthropic agencies have ever been called upon to increase their work through minimum wage legislation.¹

Mr. M. H. Stevens, the Assistant Factory Inspector, who had charge of the granting of licenses at the time I visited Melbourne, believed that the permit system was working satisfactorily, and he felt sure that if there were any considerable number of workers who were unwilling to apply for licenses and were, nevertheless, being forced to yield their places in industry to the younger and more active workers, it would have been brought forcibly to public attention.

There is no reason whatever to doubt the honesty of the opinions held by the factory inspectors and there is much to be said in favor of their views that if dismissals of employees because of age, infirmity or natural slowness were frequent, more attention would be focused on this part of the Factories Act. Yet the argument is one which is not entirely convincing. The reports made by all investigating commissions in Australia² and the opinions of nearly all impartial investigators from outside Australia are to the effect that the fixing of a legal minimum wage does result in an earlier displacement of the old, infirm and slow workers than would take place without the law. Thus, Mr. Harris Weinstock, who is unusually enthusiastic over the success of the wages board legislation admits that

The system is hardest upon the slow or inefficient worker who cannot make himself worth the minimum wage fixed by the wages

¹ Report of Irene Osgood Andrews to New York State Factory Investigating Commission (1914), p. 63.

² Report of Royal Commission (Judge Backhouse) of New South Wales in 1901, p. 29. Report of Royal Commission of 1902-03 in Victoria, Report of Select Committee of Legislative Council of South Australia, 1904.

board. . . . In good times the slow worker is the last to be put on, and in bad times he is the first to be sent off. This, as a rule, will be his experience in most every country and under most all industrial conditions, but since he cannot make his own bargains here, it works out still harder for him under a wages board law.¹

Moreover, nearly all the manufacturers interviewed (and they were by no means unfriendly to the law) expressed the opinion that old and slow workers found it difficult to obtain employment in ordinary times in a trade subject to a minimum wage law and that the permit system had by no means remedied the situation. Indeed, in some respects it was said the existence of the permit makes the situation more difficult since it is a direct proof of the holder's inefficiency. The most capable manufacturers, those who sought to attract to their shops the best workers, said that they did not want the permit workers at any rate of pay. While the majority of them held that for humanitarian reasons they would not dismiss men who had been in their employ for some time and whose efficiency had begun to decline, they admitted that they would not offer employment to a permit worker seeking work. It is also the feeling of many manufacturers that many workers who are unable longer to earn the minimum wage at their trade shrink from such an acknowledgment of this fact as the application for a permit to work at a lower rate carries with it, and they drift out of the trade altogether, to add to the number of unskilled workers or to endeavor to carry on work in their own homes.

Statistics in none of the Australian states show the number of licensed workers who are at work in the various trades in which wages boards are in force. "Slow" workers were added to the list for whom the Chief Factory Inspector might in his discretion issue a

¹ Weinstock, *op. cit.*, p. 66; see also Aves, *op. cit.*, pp. 62-66; Schachner, *op. cit.*, pp. 248-249, and Clark, *The Labour Movement in Australasia*, p. 231.

permit to work at a rate lower than the legally established minimum by the Victorian Parliament in 1903, and this is now the rule in all the states. According to a report made to Mr. Aves in 1907, the Chief Inspector in Victoria had issued 487 licenses which were then in force. This number was less than one per cent of the total number of employees in the 39 regulated trades.¹ In South Australia in 1912 there were only 95 licenses in the 57 trades under wages boards.² It is not claimed that these represent all persons in the regulated trades who are working at less than the minimum rates fixed by the determinations.

It must not be thought that the fact that the wages board determinations result in forcing out of employment a certain number of men and women who might otherwise continue for a time as wage-earners is to be viewed as a condemnation of the legal minimum wage. As already explained, the minimum wage merely hastens the operation of a force already in existence, which would sooner or later have compelled the same workers to yield their positions. The displacement of these workers means the employment of other and more active workers whose productive efficiency is greater. The displacement of the old and slow means that their necessities can no longer be taken advantage of to keep down the wages of the more efficient. Of course the responsibility of the community for these displaced workers is thereby increased, and this responsibility must be met by old age pensions, unemployment insurance and other means. But Mr. Mauger, the Secretary of the Anti-Sweating League, is doubtless right in his contention that there is a point beyond which the interests of the old and slow workers should

¹ Aves Report, pp. 62-63.

² Report of Chief Inspector for 1912.

not be considered by the boards when they come to fix the minimum wage.

From the standpoint of organized labor the use of the permit system is subject to a dangerous abuse. Trade-union secretaries seldom object to the granting of permits to those workers in the trade who are known to be old and infirm, but they look with suspicion on the claim of employers that a man because he is naturally slow cannot earn the minimum wage. It is pointed out that the slowness may be due to unusual care in production which improves the quality of the work. Besides the answer to the question as to whether or not a man is slow is largely a matter of individual judgment.¹ Generally speaking, however, there has been comparatively little criticism of the work of the inspectors in granting licenses.

The displacement of the old and slow workers is not the only displacement of labor which has been charged up to the wages boards. We have already seen that some of the early determinations caused a displacement of the home workers, but this was generally regarded as an advantage to the community, especially where those displaced had been working only for pocket money.

Of more significance is the displacement of men by women as shown by the condition in the clothing trade, where in 1896 in Victoria 33.7 per cent of the employees were women or girls, while in 1906 they made up 40 per cent and in 1913, 80.6 per cent of the total number in the industry. Probably other changes than the fixing of minimum wages were at work to bring about this result, but the Chief Inspector says that the great increase in juvenile female labor has tended to keep down the average wages,² and when one observes that

¹ Schachner, *op. cit.*, pp. 248-249.

² Report of Chief Inspector for 1908, p. 28.

in 1913 the average wage for all males in the trade was 47s. 1d. (\$11.44), while for all females it was 22s. 2d. (\$5.38), it is easy to see what the tendency in the trade would be.

The displacement of men by women is not, however, the usual thing. Displacement of women by men is more likely to be the result of determinations which aim at the establishment of standard rates and which under the pretense of equity fix the same rates for women as for men. One of the inspectors in Victoria in 1903 reported that the effect of the board's determination in the leather goods' trade, which established the same rate for hand sewing (45s. [\$10.93]) for women as for men, was likely to cause the women who for years had been doing a portion of this work to lose their employment.¹ Apparently in this case the board itself altered the rate for women, for the highest minimum rate for any class of female workers is now only 25s. (\$6.06), while for men it is more than double that amount, — 55s. (\$13.36).²

A notable example of a direct effort to exclude women from a given occupation is furnished in the boot trade. The work of skiving the leather uppers had been done by women on the Amazeen machine; that for soles on the Scott machine run by men. A machine called the Fortuna was introduced which could do the skiving for both uppers and soles. The work on this machine could be done by women and required very little muscular power. The representatives of the men on the Boot Board in Victoria argued that the rates should be fixed the same for women as for men but to this the chairman could not consent. However, some of the large employers came to the conclusion that it would be

¹ Report of Chief Inspector for 1903, p. 20.

² Report for 1913, pp. 95-96.

to their interest to have men do this work and they accordingly brought pressure on their own representatives, with the result that some of them went over to the side of the men and voted to establish equal rates for men and women for operating this machine. A New South Wales Board was asked by the workers to make the same award but refused to do so and when the case was appealed to the Arbitration Court, Mr. Justice Heydon held that this "was a claim by the men, for the men, that a wage should be imposed upon the women that would shut them out, and the women were not heard upon it." He would not agree to this.¹

A more recent attempt to exclude the women was shown in connection with the first determination made by the Commercial Clerks' Board. Equal wages (48s. [\$11.66] per week) were fixed for men and women by the board, but the women clerks, who had but one representative on the board, took an appeal to the Court of Industrial Appeals on the ground that equality of wages would drive them out of employment. The Court upheld their appeal and reduced the minimum wage for female cashiers in shops to 28s. (\$6.79) per week and for all others to 32s. (\$7.76), while the minimum wage for men was left at 48s.²

In some trades the effect of the establishment of a minimum wage for adults has been to increase the number of juvenile workers in the trade. This appears to have been the case in the underclothing trade in Victoria from the time of the first determination.³ The removal of the restriction on the number of apprentices in 1903 greatly increased the tendency to employ juvenile labor, and both the number and percentage of

¹ New South Wales Industrial Arbitration Reports, 1911, p. 589.

² Report of Chief Inspector for 1913, pp. 60-61. See also Piddington Report, p. xxxix.

³ Report of the Chief Inspector for 1899, pp. 12-13.

apprentices showed a great increase in several trades¹ during the years that this limitation on the power of the boards to fix the number and proportion of apprentices continued.

Still another and very troublesome form of displacement of labor for which the wages boards seem partially responsible is the substitution of Chinese workmen in the furniture trade for Europeans. The unpopularity of the Chinese and the fear that they would seek to control wages boards in their own interest led Parliament to provide for the appointment rather than the election of the wages board members in the furniture trade. This left the Chinese without representation on the board. The board declined to establish piece-work rates and fixed the minimum wage first at 7s. 6d. a day and subsequently raised it to 8s. a day. Many of the Chinese could not earn the minimum wage, and in fixing the minimum so high it had undoubtedly been the intention of the board to exclude Chinese competition. Directly the opposite result was accomplished. The Chinese workers who would have been driven out of the trade entered into collusion with their employers to evade the law and to furnish no evidence as to the real wages paid. Many new shops with from one to three workmen apiece began business, and when the inspectors questioned them in regard to the wages paid they either claimed that wages above the minimum were being paid and offered their books in evidence or they said "Alle same company," or "We alle same share um pprofits" or gave some other evasive answer.²

The result was that while the number of European workers in the furniture trade declined from 1,103 in 1899 to 989 in 1907, the Chinese increased during the

¹ Report for 1904, pp. 18-19, 36-37; 1905, p. 17.

² Report of Chief Inspector for 1897, p. 11.

same years from 488 to 565.¹ Since then, however, the Europeans have shown some increase, while the Chinese have hardly held their own. The inspectors make no concealment of the fact, however, that they are unable to enforce the determination of the wages board upon the Chinese, and the whole affair affords, as Mr. Ord said "a clear instance of how powerless laws are for the imposition of a minimum wage so soon as such wage is opposed to the interest of the majority of the employers and employees."²

Our conclusion with reference to the whole matter of displacement of certain classes of workers must be that the minimum wage, like any other economic change, of necessity compels some readjustment of industrial conditions. To make the readjustment employers will be likely to seek to economize on that portion of the labor force which on the new wage scale would be likely to yield them the least profit. This may mean a displacement of men unable to earn the minimum by those able to earn much above the minimum, or it may mean a substitution of juvenile labor for adult labor or of women for men.

The displacement will be all the greater if machinery can be substituted for labor. The displacement will be much greater at the time when the determination is introduced. If changes in wages are not made too rapidly or violently the displacement may be hardly noticeable, especially if there is no keen outside competition.

¹ Reports of Royal Commission of 1902-03, p. 6, and of Chief Inspector for 1907, p. 77.

² Report of Chief Inspector for 1897, p. 10.

4. *Effects on Industry and Industrial Growth*

In industrial matters, as is well known, it is usually impossible to single out one from a number of causes, and, by pointing to certain results, declare with certainty that these have been due to the cause designated. The statement holds as true of wages boards in Australia as it does of any legislative experiment in any country. Undoubtedly a mode of wage regulation as radical as that of a legally established minimum wage would have important consequences in industrial development. It is equally true that in Victoria as in other wages board states important industrial changes have taken place in recent years. To say, however, that these changes have been due to wages boards and to wages boards alone requires a degree of confidence in one's own judgment which is fortunately lacking in most trained investigators.

One thing can be said with absolute assurance; the direful predictions made in the Victorian Parliament at the time the wages board legislation was up for consideration, as to the loss of trade, the increase of unemployment and the ruin of industries, which would follow, have not been fulfilled. How much greater (or less) would have been industrial development in this state without this legislation we have no means of knowing, but that there has been a rapid and almost steady increase in the number of factories and of employees is demonstrated by the statistics. In 1896, when the first wages boards were authorized, the number of factories registered in Victoria was 3,370 and there were employed therein 40,814 persons, which was a number but little in excess of the employees in factories ten years before. Every year since 1896 has seen an increase over the preceding year in the number of fac-

tories and every year but one an increase in the number of factory employees, until in 1911 the number of factories registered was 5,638 and the number of employees 88,694.¹

There have been, indeed, in Victoria since 1897, only a few unfavorable developments in the manufacturing industries which could in any way be held to have been the consequence of the labor legislation. Victoria, like other Australian states, has shared in the industrial prosperity which has so generally accompanied the upward movement in prices all over the world, and while it would be a mistake to hold the wages boards largely responsible for this prosperity, it is at least true that they have not caused depression.

The prediction that industries would be driven out of the state by the wages board determinations seems to have been fulfilled in only a few instances. I have already referred to the case of the brush factory which was closed and the business transferred to Tasmania, but this seems to have been due to the fears or stubbornness of the proprietor for he never gave the new system a trial in his establishment. The determination was welcomed by other employers in this industry.² Dr. Clark refers in his Report ³ to a cigar manufacturer who moved to Adelaide to escape wage regulation. In the case of the fell-mongering industry, which employers declared had been well-nigh ruined by the first determination in 1900, the Royal Commission of 1902-03 was unable to find that it had been seriously affected except by the employers' action in closing their yards.⁴

¹ Report of Chief Inspector of Factories for 1913, p. 5. Figures could be given for later years showing a further increase, but they would not afford a fair comparison since in 1912 an Order in Council was passed, extending to the whole state the provisions of the Factories Act which brought under registration factories not hitherto included.

² Report of Chief Inspector for 1902, p. 17.

³ Labor Conditions in Australia, Bull. No. 56, U. S. Bureau of Labor, p. 77.

⁴ Report of Royal Commission, pp. liv-lvi.

At the time the Commission made its report it was able to state that,

One of these has resumed work with 50 hands, being about 30 less than before, and a second has started again with about 60 hands while the former manager of the last-mentioned firm has commenced business for himself with the same number. On the other hand, it is stated that one of the old firms has given up the business altogether.¹

Three coöperative societies of workmen had begun work after the closing down of the plants. They paid themselves the minimum wage fixed by the board and worked only 48 hours per week. They bought skins in the open market and made no reduction in the price of the finished article, and seemed to be doing a good business.² As both the number of establishments and the number of employees have continued to increase since 1901 in spite of a large increase of wages³ it is clear that the fears of the employers have not been realized.

The most notable example of the dislocation of industry following a wages board determination occurred in the boot trade, where the Royal Commission reported that after the first determination had been made,

The wage system combined with the use of labour-saving machinery and keener competition resulted in the closing of a number of small factories (47 in all, it is said). This cannot be regarded as wholly an evil, however, as many of them were started without sufficient capital, under the high protection given to boot factories by the State Tariff, and being provided with poor equipment, they were too often noted for producing inferior goods and paying low wages.⁴

Among the complaints made against the wages boards in Victoria during the early years of their exist-

¹ Report of Royal Commission, p. lvi.

² *Ibid.*

³ Report of Chief Inspector for 1913, p. 19.

⁴ Report of Royal Commission, p. xxxvi.

ence, one of the most frequent was that the export trade of the colony had decreased as a result of the increase in prices made necessary by the artificial rise in wages. It was this complaint which led to the reduction already mentioned in the minimum rates at first fixed by the boards in 1897. In spite of the reduction in rates there was a considerable falling off in the exports of both boots and clothing during 1898 and 1899, and Mr. Ord admitted that "after making every allowance it is probable that Victorian manufacturers would find it difficult to compete in other markets with other manufacturers that were not subject to any minimum wage."¹ In both industries, however, the decline in exports was short lived, and the Royal Commission of 1902-03 reported for the boot trade that "any ground lost by manufacturers in the export trade had been fully recovered"² and for the clothing trade that "the fears of manufacturers have not been realized but on the contrary the command of inter-state markets has resulted in a considerable expansion of exports of apparel from Melbourne."³

In the furniture trade there was also some falling off in exports following the first determination, but this was largely if not entirely due to the fact that nearly one-half the exports prior to the determination had been to West Australia, where the rapid increase in population caused by the development of the gold-fields led to an active but short-lived demand. Other countries shipping to the same market showed a similar decline.⁴

Not all the comments on the effects of the wages boards system on industry even during the early years are of an unfavorable sort. Mr. Aves refers to the

¹ Report of Chief Inspector for 1898, p. 9.

² Report of the Royal Commission, p. xxxvii.

³ *Ibid.*, p. xli.

⁴ *Ibid.*, p. liii, Report of Chief Inspector for 1898, p. 17.

opinion quite widely held that the determinations had tended to certainty and regularity of employment for at least all but the old and infirm workers, and he says that in the trades in which underpayment was most likely, especially women's trades, "the lesson appears to be being learned that low wages are not necessarily the cheapest."¹ In both the clothing and the wood-working some employers have admitted that they could produce at less cost with the higher paid than with the lower paid labor.²

One possible effect of the minimum wage which does not seem generally to have been noted was mentioned to me by Dr. Purdy, the Chief Inspector of Factories in Tasmania. He says that shortly after the first determinations had become effective in that state, the merchants of Hobart reported that their sales had increased as a result of the increased purchasing power of the laborers.

Where the wages board system has tended to weaken the employer's position, it is generally because an apparent burden has been imposed on his business which has not been imposed on his competitors. Probably the most noticeable example of this is where manufacturers under the wages board system are compelled to meet the competition of manufacturers outside the state not under such a regulation. Many examples of this competition might be cited, such as that in the plate glass industry, where manufacturers declared they could not meet the competition of English manufacturers and must close their factories.³ It seems likely that in this instance the imposition of a tariff on the raw material was as much responsible for their embarrass-

¹ *Aves, Report*, p. 47.

² *Schachner*, pp. 236-237.

³ *Report of the Chief Inspector of Factories in Victoria for 1901*, pp. 32-33; 1904, p. 30.

ment as was the increase in wages. In the wicker industry the unrestricted competition of Sydney firms which were not at the time under wages boards was in 1906 seriously crippling the Melbourne manufacturers, who were compelled to pay 4s. for work which their Sydney competitors secured for 1s. 6d.¹ In the clothing industry it was shown that manufacturers from Sydney and Melbourne were sending goods to Adelaide to be made up there and then returned to the owners, in the years before South Australia had adopted the wages board plan.² Generally speaking, however, such competition was not very serious for two reasons. In the first place, it was not long before the other Australian states had adopted legislation which placed the same restrictions on employers within their jurisdictions as had been placed on those in Victoria; and in the second place, the fact of outside competition is always brought to the attention of wages boards and is frequently responsible for the small increases allowed.

Another form of competition which the establishments subject to wages board determinations have at times had to meet is the competition of country districts to which the determinations did not extend. Thus the Victorian manufacturers in the saddlery trade in 1901 complained when the effect of the board's ruling was to raise the wages in the trade that the determination only extended to cities and towns and the shops in boroughs or shires were given an unfair advantage.³ The same complaint was made some years later by the furriers subject to a determination.⁴ This form of competition, in Victoria at least, need no longer exist

¹ Report of Chief Inspector for 1906, p. 43.

² Report of Chief Inspector in South Australia for 1899.

³ Report of Chief Inspector for 1901, p. 35.

⁴ Ibid., 1907, p. 33.

for a determination may now be made applicable to all establishments in the state if an Order in Council is issued to this effect.

Another form of competition to which a regulated trade is liable is that of a trade not subject to a determination, but this is now not likely often to occur, since nearly all industries and occupations outside of agricultural callings and domestic service are provided with wages boards.¹

That part of the work of the various boards concerning which employers have made the most complaint has been the limitation of the number of apprentices. This complaint was made in the "slop" clothing trade in 1899² and in the wood-working trade and various other trades in 1901.³ The complaint became so loud that in 1902, Parliament took away from the boards the power to impose limitations on the number of apprentices. But the danger that apprentices would be used to displace adult labor and to defeat the purpose of the minimum rate led to the restoration of this right.

The same complaint in regard to the undue restriction of the number of apprentices and the counterclaim that apprentices were being used to keep down wages were made in Adelaide in the white work trade and in the bread trade.⁴ It is the employer doing business on a small scale who is most likely to be seriously affected by the limitation on apprentices, since a board usually provides that there may be one apprentice for a given number of adult workers and the small establishment not employing this number of men is thus at times denied the right to employ apprentices.⁵ As an offset

¹ Schachner, *op. cit.*, p. 239.

² Report of Chief Inspector for 1899, p. 7.

³ *Ibid.*, 1901, p. 39.

⁴ Report of Chief Inspector for South Australia, 1905, p. 2; 1908, p. 5.

⁵ *Ibid.*, 1908, p. 3; Schachner, *op. cit.*, p. 240.

to this evil of too few apprentices, Mr. Ord called attention to the fact that the practice of having the board fix the number and wages of apprentices made it incumbent on the employer to give them some real training, so as to make them worth the wages which he would be compelled to pay if they were employed by him. "The natural result will be," he said, "an improved class of workers who will be a credit to their employers, the trade and the state."¹

It is an opinion held by many in Australia that the wages board determinations benefit the large employer more than they do the small one. Because of his larger establishment the large employer can make a fuller utilization of the highly paid workmen. In the bakery trade, one Victorian inspector reported that the determination was weeding out the small baker, the man who employed only one hand. He would be unable to pay the minimum rate and would therefore himself enter industry as a waged worker.² A determination made by the Hairdressers' Board had the effect, so it was stated, of closing some of the smaller shops and throwing 70 men out of employment. In this case it was claimed by some that it was the intention of the board to bring about this result, and that the representatives of the employers on the board connived with the employees to fix the minimum wage so high that suburban shops in Melbourne could not operate. The Government for a time refused to gazette the determination but finally decided to do so.

Mention has already been made of the fact that the limitation on the number of apprentices or improvers is likely to bear harder on the small than on the larger establishment. The same thing is at times true of the

¹ Report of Chief Inspector for Victoria, 1900, pp. 11-12.

² Report of Chief Inspector, 1900, p. 14.

reduction in the length of the working day. Small shops located in the residence districts and receiving considerable patronage from people going to or returning from work are most likely to feel the effect of early closing laws and of the determinations which limit the working hours of their employees.¹

The small establishment, however, is not always the one to feel most the effects of a minimum wage. In quite a number of cases the increase of wages had the result of multiplying the number of establishments that undertook to employ no hired labor whatever. Such examples are frequent in the furniture, baking, butchering and wicker work industries. In general it may be said that like any new element in industry, the effect of a determination is likely to be felt most by the least resourceful in any trade. Some readjustment has to be made to meet the conditions growing out of the increase in wages and at times this is best made by the large employer, at other times by the small one.

Except in a few instances the wages boards do not seem to have greatly increased specialization or to have hastened much the introduction of machinery. In the clothing trades increased specialization did come at about the time of the early determinations and was doubtless assisted by them.² Attention has already been called to the increased use of machinery in the boot and shoe industry, which certainly was not primarily due to the determination of the wages board but was doubtless promoted by it. In this industry the reduction in the cost of production brought about by the use of machinery served fully to equalize the increase of wages by the determination. Mr. Ord felt that one of the most useful results obtained by the wages boards

¹ Schachner, *op. cit.*, p. 240.

² Aves Report, p. 53.

was to be found in this trade owing to this introduction of labor-saving machinery. He said:

If there had been no minimum [wage] the results would have been disastrous. With an over-stocked labor market, the inevitable results of individual competition would have been seen. The value of the labour would sooner or later (except in the better-class factories) have been the necessities of the workers. Each man out of work would have been willing to take a "little" less than the man in work and when such men had got as low as they would go, the old, slow, and infirm workers would come in and cut still lower. . . . It is improbable that a low minimum would result in one more man being employed, as the best man would always get the work in the end, and those at work might as well be paid good wages, since a lower wage would not benefit those out of employment.¹

No positive proof tending to show either increased efficiency or a decline in output on the part of the individual worker as a result of the determinations can be furnished. Too many and diverse causes enter into this matter, even if it could be shown that an increase or a decline in output had taken place. In the clothing trades the general opinion seems to have been that the early determinations had resulted in increased efficiency, but this may well have been because of the adoption of the task system. Employers whom I interviewed were almost unanimous in the feeling that the efficiency of the average worker had declined in recent years, and this same opinion was expressed by others than employers, men on the whole favorably inclined to the wages board system. The decline was generally attributed to the "go easy" or "make work" doctrines which they generally felt sure were being inculcated by trade-union leaders. The trade-union secretaries, on the other hand, indignantly repudiated this charge and most of them said that such a matter had never even been discussed in their meetings. They were also inclined to believe there had been no decline in output. When one

¹ Report of Chief Inspector, 1898, p. 12.

remembers that this same charge is made against trade unions in other countries, including our own, and is as vehemently denied by trade unionists themselves, he is prepared to conclude that, in the absence of any direct proof, whatever decline in efficiency, if any, has taken place is not to be charged up to the wages boards.

We may also say that there is very little evidence of "speeding up" by manufacturers as a result of the wages board system, tho the adoption of the task system in the clothing and boot trades¹ after the first determinations had been made furnishes examples. Generally speaking, however, the scarcity of labor in most lines of industry in Australia in recent years precludes any general adoption of such practice.

5. *Growth of Trade Unions*

To any one who is familiar with the strength of the trade-union movement in Australia and knows of the influence exercised in political as well as in economic affairs by the Trades' Hall in every capital city, it is hard to believe that the political system of wage regulation has not played an important part in this development of labor organizations. For the same reason it is hard to see why certain important officials of the American Federation of Labor are opposed to the regulation of wages in this country by wages boards or arbitration courts. One of the most important and influential of the Australian trade-union officials to whom I mentioned this attitude of our labor leaders shook his head and said: "I know it; out here we can't understand it."

According to a recent report of the Commonwealth Statistician, there were 433,224 members in 621 trade unions in Australia in 1912. There were 415,554 male

¹ Report of Chief Inspector of Factories in Victoria, 1898, pp. 13-14.

members, who constituted about 44 per cent of the (estimated) total number of male employees twenty years of age and over in all professions, trades and occupations; while the 17,670 females in unions made up 8.41 per cent of all employed females.¹ That the methods of wage regulation had apparently been one of the influences causing the growth of trade unions seems to be indicated by the fact that the membership in unions had remained almost stationary from 1891 to 1896, before wage regulation began, but had made rapid progress thereafter. The percentage of wage earners in unions is greatest in New South Wales, where the Arbitration Court frequently gives preference to unionists, but in Victoria, where the percentage is 43.98, the wages boards have undoubtedly exercised a strong influence.²

For many trades, especially those in which women or unskilled laborers are employed, the wages board is the beginning of organization. It brings the workers into coöperation for the first time and, for the time being at least, establishes representative government among them. If the determination raises the minimum wage rate, as it has done in nearly every case during the era of rising prices which has continued ever since the boards were established, there is a strong incentive for the workers to form themselves into a strong organization which shall see that they receive the wages prescribed. True, it is the business of the government factory inspectors to see that the determinations are complied with. But even a large force of inspectors could not learn of all the supposed violations if they were not brought to their attention by some responsible

¹ Report No. 2, Labour and Industrial Branch, Commonwealth Bureau of Census and Statistics (April, 1913), p. 12.

² *Ibid.*, p. 13.

agency or organization. This the trade union undertakes to do. The wage earner who believes his employer has violated the determination in his trade is most likely to inform his union secretary who is usually a paid official giving all his time to trade-union matters. If the complaint appears to the latter to be justified he reports it to the Chief Factory Inspector's office and an investigation is made.

The value of such an organization, especially to women, who in Australia as elsewhere find it difficult to organize to protect their own interests, is obvious. It is doubtful if a full compliance with a wages board determination is anywhere secured without an organization of the workers to see to its enforcement. A secretary of one of the most powerful trade unions in Australia told me in Sydney that he had assisted the women in several trades to form organizations and apply for wages boards. Important increases in wages besides improvements in working conditions, were obtained in this way, and so important did this gentleman believe the work to be that he said that if financially able to do so he would give all his time to such work of organization. A well organized union not only watches the enforcement of the determination, but usually takes the lead in asking for a wages board or in seeking a revision of the rates of pay; and it nominates the workers' representatives on the board. Frequently these are the only nominees, and 80 per cent of the employees' representatives on the boards are members of the unions.¹

Whether or not a well organized union having in its membership a good proportion of the employees in a trade is benefited by the wages boards system is a question which meets with different answers even

¹ *Aves Report*, p. 58.

among trade unionists themselves. The majority of the union secretaries whom I met were inclined to think that the wages boards were a benefit even to the strong unions, but there were others who thought that the unions could secure more through strikes than they could through wages boards.

There are other friends of labor outside the unions who doubt whether the wages boards are of any assistance to the unions. Even the author of the wages board law, Sir Alexander Peacock, doubts whether wages boards have been of much value to the well organized trades. There can be little doubt that their maximum benefits have been conferred upon those workers who without them as an incentive would have found it difficult to establish and maintain an organization.

As in the case of the workers, so too in the case of the employers, have the wages boards promoted organizations. Employers unite to nominate their representatives on the boards, to prepare their arguments presented to the boards, to appeal if need be to the Court of Industrial Appeals and to resist what they may consider to be an unfair administration of the law. There is less unity of interests, however, among employers than among employees. Not only is there the natural trade rivalry to keep them apart, but the large employers often find that a certain proposal affects them in quite a different way than it does their smaller competitors. While there are several strong associations of employers in Melbourne, such as the Chamber of Manufactures and the Victorian Employers' Association, which take an active interest in the work of the wages boards as well as in other matters of social legislation, it cannot be said that wages boards have fostered the spirit of unity among employers to the same extent that they have among the laboring classes.

6. *Relations between Employers and Employees*

The effect which wages boards legislation has had upon the relations between employers and employees must of necessity be a matter largely of opinion, and one's opinion is itself determined by the range of his experiences and by the views of those with whom he has come in contact. In Victoria, as in other industrial countries, these relations are frequently strained, and one finds the same mutual distrust and suspicion on the part of employers and employees which seems everywhere to accompany the wage system.

There can be no doubt, however, that employers and employees are on more friendly terms in the wages board states than in those states where labor disputes are settled by means of compulsory arbitration. It is almost self-evident that a better feeling is likely to prevail under conditions where employers and employees meet on equal terms in open conference to settle their differences, than where one side forces the other to appear in court to respond to certain claims advanced and the final adjustment must be made by a third party. One might well go further, and say that the conference plan itself must inevitably make for a better understanding and therefore give rise to a better feeling between the parties. Through such conferences employers learn to appreciate how difficult at times it is for their employees to make ends meet or to maintain a comfortable standard of living; employees on the other hand oftentimes learn to their surprise that the industry in which they are engaged is not a prosperous one and cannot continue its existence if the claims which the workers are making are to be allowed. Evidence that such good feeling has at times been engendered by the wages boards is found in the speech of a member of the

Legislative Council of Victoria in 1905, when the bill to make permanent the factories acts, including the wages board sections, was being debated. This member was engaged in the butchering trade. He said:

There had never been in the history of the trade as good a feeling existing as at present. At the annual picnic of the journeymen butchers the president and other leading members of the Master Butchers Association were present and testified to the good feeling existing between them and their employees. Others had told him that they would on no account revert to the old state of things that existed prior to the introduction of factory legislation.¹

A better test of the absence of any deep-seated ill-feeling engendered by the wages boards' system is seen in the relative infrequency of strikes and lockouts in those trades and occupations for which wages boards have been provided. In Victoria, in particular, a strike in any trade in which a wages board has reached a determination is now a thing of rare occurrence. Strikes of considerable duration and extent, which engendered much ill-feeling, have taken place on the government-owned railroads and in the state coal mine at Wonthaggi as well as in industries under private ownership and management, but with few exceptions these industrial disturbances have occurred in other than the wages board trades.

The annual report of the Chief Inspector of Factories in Victoria contains a brief history of the organization and work of each of the various boards. Only six industrial disturbances are there referred to as having occurred in the wages board trades. A lockout in the fell-mongering industry ² in 1901 came as a result of the refusal of the Court of Industrial Appeals to change

¹ Hon. A. McLellan, *Parl. Debates*, vol. iii, p. 1008.

² Report of the Chief Inspector for 1901, pp. 23-24.

materially the wages board determination which reduced the working hours from 54 to 48 per week. A strike in the Chinese branch of the furniture industry ¹ in 1897 occurred because the wages board on which the Chinese had no representation fixed the minimum wage so high that it caused wholesale dismissals of Chinese workmen. The Chinese workers had a strong union which required those at work to support those not employed. With the large number thrown out of work this burden on those who remained at work became too heavy, and the workers went on a strike, demanding the establishment of a system of piece-work rates. The result was that the Chinese employers connived with their employees to evade the law, and, as already remarked, they have continued to do this ever since in spite of determined efforts on the part of the inspectors to secure evidence to this effect. Another strike occurred in the Chinese furniture trade in 1903,² which involved 27 factories and lasted twelve weeks. It resulted in a 10 per cent increase in wages. The strike was of course in no way due to the work of the wages boards since the Chinese were not complying with its determination. In 1906 in the stone-cutting industry, the letter-cutters, about twenty in number, went on a strike because they were dissatisfied with the board's determination.³

In his report for 1907 Mr. Ord, in reviewing the work of the Bread Board, had this to say:

For the first time in over ten years a strike of some importance took place in a trade under a Special Board. It is a remarkable thing, however, that the strike was not against the determination of the Bread Board, but in consequence of the Court of Industrial Appeals altering a decision of the Board. . . . The Court after hearing evidence reduced the wages from £2, 14s. [per week] to £2, 10s., from the 15th of September, 1907. . . .

¹ Report of Chief Inspector, 1897, pp. 10, 11.

² Ibid., 1903, p. 17.

³ Ibid., 1906, p. 36.

From the 5th of August to the 14th of September the men had been receiving the increased wages allowed by the board. This fact no doubt had a good deal to do with the action of the union later on, as men do not willingly submit to a reduction of wages no matter how obtained, and in this case it had been granted by a tribunal appointed by Parliament for the purpose of fixing wages. . . . The strike commenced on the 29th of September. It was not of long duration. On the 2d of October the majority of the employers concerned granted the demands of the union, and the strike was over.¹

The last of the six strikes to which reference is made in the Chief Inspector's report was that of the timber stackers and sorters which occurred in March, 1910, as a result of a determination of the Wood Workers' Board which had fixed the wages of the stackers at 1s. less than the rates which had been paid. The stackers felt that they had not been satisfactorily represented on the board and engaged in a strike which lasted seven weeks. It was finally ended by the Minister, who called together a new board which adopted a new schedule of rates more satisfactory to the stackers and sorters.²

The above record of strikes and lockouts in the wages board trades, which has been gleaned from the reports of the Chief Factory Inspector's office in Victoria is possibly not complete; altho I have no reason to think that any industrial disturbance of any consequence has been omitted. Mr. Ord, in the various reports which he made up to the time of his death in 1910, always referred to the strike in the bakeries as the only one of any consequence which had taken place in an industry subject to a wages board determination. This is certainly a remarkable showing for the wages boards as a means of securing industrial peace. In the neighboring colony of New South Wales, with employers and employees subject to the severe penalties of the Industrial Arbitration Acts, there were between July 1, 1907,

¹ Report of Chief Inspector, 1907, pp. 18, 19.

² Ibid., 1910, p. 71.

and March 31, 1913, no fewer than 447 "industrial dislocations."¹ Even in New Zealand, which has made a much better showing under its compulsory arbitration acts, there were between January 1, 1906, and March 31, 1912, thirty strikes coming within the scope of the arbitration act,² and some of them were affairs of considerable magnitude. In making this comparison between Victoria and other states it must of course be remembered that until very recently wages boards have not been found in industries (like coal mining and the transport industries) in which strikes are most frequent. Nevertheless, after making all due allowance for varying conditions, Victorian experience goes far towards justifying the assertion that it is the provision of means whereby the important differences between employers and employees may be adjusted in a friendly and equitable manner, rather than the element of compulsion, which leads to a diminution of strikes.

The Factories and Shops Act of Victoria contains no prohibition of strikes or lockouts nor are any penalties provided for those who take part in such industrial disturbances. Nevertheless, there is a very strong public sentiment in Victoria in opposition to strikes or lockouts in any trade or industry for which a wages board has made a determination. Mr. Ord undoubtedly reflected public feeling in regard to the matter when in his annual report for 1906³ he had this to say apropos the strike which had taken place in the stone-cutting trade:

It does not seem fair that men should obtain all the legal advantage of a minimum wage and then seek by a strike to secure an advance on the legal wage. If such a policy were adopted the em-

¹ New South Wales Industrial Gazette, April, 1913, pp. 18-36.

² Twenty-First Annual Report of the (New Zealand) Department of Labor, 1912, p. 11.

³ Pp. 39, 40.

ployers would be in the position of having to pay the rates fixed by boards plus such an amount as might be secured by a strike or the dread of a strike.

It is not that any one expects all employees to accept the lowest wage fixed by a board to which exception is taken; it is the united action of the trade seeking to secure for all employees a higher rate than that fixed by the board.

If the majority of the employees in a trade refuse to accept the wage fixed by a board and stop work till all are given the higher rate claimed, I think the determination of the board, so far as it relates to matters in dispute should be suspended so that both sides might be free to fight the case on its merits.

The strike in the bread-baking industry the following year led Parliament to follow the suggestion made by Mr. Ord and to incorporate in the Shops and Factories Act the following section:

Where the Minister is satisfied that an organized strike or industrial dispute is about to take place or has actually taken place in connexion with any process, trade, business or employment as to any matter which is the subject of a Determination of a Special Board or the Court of Industrial Appeals, the Governor in Council may by order published in the Government Gazette suspend for any period not exceeding twelve months the whole or any part or parts of such Determination so far as it relates to the matter in reference to which such organized strike or industrial dispute is about to take place or has taken place, and such suspension may at any time by an Order published in the Government Gazette be removed by the Governor in Council or altered or amended in such manner as he thinks fit.¹

Altho this power to suspend a determination has never been exercised in Victoria and, if the record of the Chief Inspector is complete, only one occasion² has arisen since 1907 where the power to suspend a determination because of a strike *could* have been exercised, there can be no doubt that this section is a valuable preventive against strikes in wages board trades. What the laboring classes have gained by most deter-

¹ Factories and Shops Act of Victoria, Sec. 173.

² The strike of the timber sorters and stackers in 1910.

minations is too important to be sacrificed by a strike which, without public opinion to support it, would have little chance of success. Of course when an era of falling wages and prices comes, strikes against determinations which call for a reduction of wages may become more frequent, but even then it is probable that labor leaders with good judgment will see that a strike under such circumstances has little chance of success.

In the other states which are or have been under the régime of wages boards without the adjunct of an arbitration court, the record concerning strikes appears to be lacking. In South Australia, only one strike is reported to have occurred in a trade governed by a wages board prior to the adoption of compulsory arbitration. This was called by the carters and drivers. Inasmuch as the South Australian Factories Act forbade strikes and lockouts "on account of any matter in respect of which a board has made a determination" and provided for heavy penalties for violation of this provision,¹ the Chief Factory Inspector, Mr. Bannigan, considered it his duty to collect evidence in regard to the strike, which might be used in case the Minister decided to prosecute the strikers. With this end in view, Mr. Bannigan went to the Trades Hall to seek information. For doing so he was called before the Ministry, the Labor party being then in power, and was severely reprimanded for having taken steps which might endanger a peaceable settlement of the dispute and he was furthermore suspended from office for several days. This seems to give partial confirmation to the view that the power to suspend a determination is fully as effective as the threat of fines to prevent strikes in wages board trades.

¹ South Australia Factories Act of 1907, Secs. 159, 160.

Neither the Queensland nor Tasmanian reports make any reference to a strike or a lockout having taken place in a wages board trade. Tasmania has the same penalties for strikes and lockouts ¹ as were found in the South Australian Act of 1907.

7. Enforcement of Wages Board Legislation

The success of the wages board laws, like that of any other form of social legislation, is dependent on the support given to these laws by public opinion and the means provided for their execution. Such legislation is bound to have more success in a state like Victoria, with a relatively high degree of industrial development and where the indignation of the people had been aroused by the stories of sweating, than it will have in a state like Tasmania, where there are no large cities and where the only industries of importance are those connected with agriculture and the production of minerals and raw materials, and where if any sweating of the workers has taken place it has not been of sufficient extent to excite much public concern.

Assuming that there is a strong public sentiment back of such laws, their successful enforcement is largely a question of time and experience. In all the states where wages boards have been established, the first few years following the enactment of the laws and the adoption of the first determinations have witnessed more difficulties in connection with the enforcement than have later years. In part these difficulties are attributable to the rebellious attitude which certain employers always adopt towards new regulative legislation. In the main, however, the difficulties have been due to differences of opinion concerning the meaning

¹ The Wages Board Act (of Tasmania) for 1910, Secs. 54, 55.

and scope of application of the laws and the boards' determinations. Many of the determinations are very complex and detailed affairs and include a very comprehensive classification of employees and of the processes of manufacture. It is not surprising that many questions arise as to the place in this classification into which a given employee falls or as to what minimum rate of pay is to apply when an employee is shifted from one line of work to another. Faulty determinations of the boards or uncertainties as to their meaning have therefore been responsible for many of the administrative difficulties in connection with the laws.

Both in Victoria and in South Australia the chief difficulties in connection with the enforcement of the boards' determinations have had to do with the question of apprentices and improvers. The acts give to the boards power to fix the wages of apprentices and improvers and the number of each class which may be employed in proportion to the total number of employees, but the first acts did not define the words "apprentices" and "improvers." The legal authorities who construed the law decided that an apprentice was not necessarily a person legally bound by indenture. The result was that the two terms "apprentice" and "improver" were practically synonymous in the meaning which employers sought to give to them. When the Factory Inspector's office took action against an employer for paying less than the wages provided for apprentices he would claim that the employee in question was not an apprentice but an improver, and *vice versa*.¹ Later amendments to the act have sought to define the meaning of these terms, and some of these definitions go into great detail in their descriptions. Generally speaking, an *apprentice* is now defined as

¹ Report of Chief Inspector of Victoria for 1896, p. 19.

“any person under twenty-one years of age bound by indentures of apprenticeship;”¹ while an *improver* is any learner under twenty-one years of age who is not an apprentice, or any one who is over twenty-one and who holds a license from an inspector to be paid as an improver.

Next to the troublesome questions concerning apprentices and improvers, probably the chief difficulty which the inspectors have had to meet arises in cases where employees, fearing discharge if they assert their right to receive the minimum wage, have connived with their employers to evade the law. Such evasions were reported by Mr. Ord in the boot trade in 1898, when the introduction of machinery was causing a displacement of workers.² The most notable example of this sort, however, is the already mentioned evasion of the Chinese engaged in the furniture manufacture. All efforts to make the Chinese comply with the determinations of the boards in Victoria appear to have been abandoned by the inspectors.³

In spite of these many obstacles to the successful enforcement of the wages boards determinations, the later reports of the inspectors in all the states show that most of the difficulties have been overcome, and that employers and employees are year by year showing an increased willingness to observe the law. As has already been said, the influence of the trades unions in securing information concerning violations of the law and reporting these violations to the factory inspectors has been one of the most important aids in securing a stricter compliance with the law.

The successful enforcement of the wages board determinations demands an adequate force of inspectors

¹ Words of the Queensland Wages Boards Act of 1906, Sec. 2.

² Report of the Chief Inspector of Victoria for 1898, pp. 12, 13.

³ *Ibid.*, 1906, p. 28.

ready and willing to inquire into any reported violations of the law. In this respect most of the Australian states compare very advantageously with American states and with foreign countries. The conditions are favorable for enforcement because in nearly all the Australian states industry is highly concentrated and the number of establishments and employees is small in comparison with those in the great industrial nations. Victoria in 1910 reported 14 male and 4 female inspectors in addition to the Chief Inspector and his deputy. South Australia had in 1912, 5 male and 2 female inspectors in addition to the Chief Inspector, and Queensland, where industries are more scattered, had this same year 15 regular inspectors in addition to a few temporary ones. Of course these inspectors have the duties of ordinary factory inspection to perform in addition to seeing that the determinations are complied with, but this is an advantage rather than a disadvantage, for the duties are closely related. The willingness to provide so many inspectors shows that the Australians take their labor legislation seriously and are determined to enforce the laws and the determinations.

Prosecutions for breaches of the determinations show a tendency to increase, but this is to be expected as long as the number of boards and determinations continues to show rapid expansion. In Victoria in 1907, with 48 determinations in force, there were 59 cases of prosecutions for breaches of these determinations, convictions being secured in 43 cases.¹ In 1913, with 131 boards in existence, the number of prosecutions for breaches of determinations was 166, of which 129 were reported as having resulted in convictions.² Generally speaking, only very moderate fines, amounting on the average to

¹ Report of Chief Inspector of Victoria for 1907, p. 125.

² *Ibid.*, 1913, p. 157.

less than one pound (\$4.87) for each conviction, are imposed, but the costs generally amount to about as much as the fines. Queensland in 1912 reported 15 prosecutions for violations of determinations, with convictions secured in 11 cases.¹

8. *Public Opinion and the Wages Boards*

The final test of the success of any legislative experiment made by self-governing peoples is the degree of satisfaction which these laws afford to those who are responsible for their enactment and enforcement. It may well be that impartial students of the wages boards, after weighing all the advantages and disadvantages of this mode of wage regulation and after noting the changes in industrial and social organization which it has brought with it in Australia, and then considering the different historical tendencies of other peoples, will conclude that the system of wages boards ought not to be transplanted to other countries, to be nurtured in a different environment from that in which it first took root. Yet such a decision could not fairly be construed as a confession of the failure of the experiment in Australia. For if these boards have in the opinion of most Australians succeeded in solving the problems which they were intended to solve and have done so without perceptibly hindering industrial development or disturbing the social peace; if furthermore they have in large measure outgrown the early opposition which they encountered from employers, and have won the approval of the wage earners and the general public, — I think we must say that the Australian method of regulating wages by wages boards has proved successful, in spite of the fact that it has not

¹ Report of Director of Labour and Chief Inspector of Queensland for 1912, p. 22.

escaped criticism and that it has created new problems not foreseen at the time the laws were enacted.

No further proof of the public approval of the wages boards would seem to be required than the statement that in Victoria every session of Parliament since 1905 has seen an increase in the number of boards, until at the close of 1913 there were 134 boards in existence or in process of formation, representing practically all trades and occupations except agriculture and business of an inter-state character. There is the further fact that the wages board plan has been copied into the legislation of every Australian state except West Australia. As already mentioned, the wages boards are in some states coupled with the compulsory arbitration courts which destroys the original simplicity of the system. The retention of the boards, however, shows that the people have not lost confidence in them but that on the contrary they are considered to be a necessary part of the plan of wage regulation. Even in New Zealand the conciliation councils established in 1908 as a part of the compulsory arbitration plan are in reality wages boards under another name, and are undoubtedly the most important and successful feature of the New Zealand system. The wages board system was unquestionably adopted in the interest of wage earners, and since the establishment of additional boards comes, in the great majority of cases, as a result of the application of employees, it is clear that the wage earners are conscious of the advantages which the boards have brought to them.

The most remarkable feature in the development of the system, however, is the changed attitude of the employing classes towards the wages boards.

In the first of these papers ¹ reference was made to

¹ In this Journal, November, 1914, pp. 98-148.

the opposition which the wages board legislation met from Victorian employers in and out of Parliament during the years 1896-1903. The reports of outside investigators show that year by year this antagonism has grown less and that employers have become more and more reconciled to the wages board method of regulation.

Dr. Victor S. Clark, who visited Australia in 1904, just at the close of the long fight in Parliament to retain the wages boards, quotes favorable opinions of the boards from several employers in Melbourne operating under the system but says:

Notwithstanding these favorable opinions, however, employers, as a body are not sympathetically disposed toward the wage board system, and many are active opponents of the principle of state regulation which it implies. . . . In some trades every employer visited opposed the law, and in others there was a generally favorable attitude toward its provisions.¹

Ernest Aves, the English investigator sent to Australia in 1907 by the British government to investigate compulsory arbitration and the wages boards system, said:

Employers are, I think I may say, unanimous in one negative conclusion, namely, that Special Boards are preferable to Arbitration Courts, but on nothing else. There is also a very widely-spread belief that the boards have been instrumental, some say in abolishing, and others in modifying the evils of "sweating" and, from complex motives, there is in Victoria a great preponderance of opinion among all classes in favour of the retention of the Boards. But as to whether it is desirable to extend them, as to what their power should be, and as to their effects, there is the greatest possible diversity of opinion.²

Dr. Robert Schachner, a German economist whose investigations into labor conditions in Australia were

¹ Clark "Labour Conditions in Australia," Bulletin No. 56 of the (U. S.) Bureau of Labor (January, 1906), p. 74.

² Aves, Report to the Secretary of State for the Home Department on Wages Boards, etc., p. 46.

made a year or two later than those conducted by Mr. Aves, after citing the few instances in which the laborers had struck against the determinations of the boards, said:

In spite of these repudiations of the determinations, the employers themselves admit that they have become entirely reconciled to the law as it has brought them no disadvantages. Some boards in Victoria have even been established on the request of the employer in order that the dangerous competition of the sweaters might thereby be overcome.¹

Dr. Schachner also quotes a remark of the President of the Queensland Employers' Association made in 1908 to the effect that the Association was in entire sympathy with the principles of the wages board legislation, which it believed to be vastly superior to the system of compulsory arbitration.²

Mr. Harris Weinstock, himself an employer, visited Australia in 1909 to learn what success wages boards and arbitration courts had had in securing industrial peace. His enthusiasm for the work of the wages boards drew from him the following statements:

No impartial investigator who is seeking facts pure and simple can render any verdict other than that the Victorian wages boards have, to use a colloquialism, more than "made good." . . . Every Victorian manufacturer starts out on an even basis, so far as payment to labor is concerned. To secure the largest share of possible business he must exercise his managerial ability along other lines than that of "squeezing" labor. The legal minimum wage tends to drive the "sweater" out of the field. Where no legal minimum wage exists, the "sweater" tends to drive the fair manufacturer out of the field.

The wages boards have brought about another unexpected blessing to Victorian employers, wage-workers, and to the body-politic. They have for a period of over twelve years, aided in, if not maintained, an unprecedented era of industrial peace. The fact that the state had provided machinery where wage-earners, having wage grievances, could get a fair hearing and a fair deal at the hands of

¹ Schachner, *Die Soziale Frage in Australien und Neuseeland*, pp. 241-242.

² *Ibid.*, p. 242.

the trade experts representing both sides of the issue, and the fact that the determinations are enforceable against employers, left little occasion to resort to strikes in order to secure what they deemed equity.¹

This change in the attitude of the employing classes towards the wages boards system has continued. In 1912, among all the employers interviewed, I found none who wished to have the boards abolished. There was plenty of criticism of the work of the boards, and nearly every employer was careful to point out what he considered to be unfair in the determinations under which he happened to be working. But they were unanimous in saying that industry had adjusted itself to the system of wage regulation, and it would therefore be undesirable to attempt to restore the old system of unregulated competition in the hiring of laborers. That this more friendly feeling among Victorian employers towards the wages boards is due in part to the belief that if the boards were abolished a more drastic method of industrial regulations, viz., that by arbitration courts, would be adopted, there can be no doubt. In the states having compulsory arbitration employers were generally supporters of the system, altho their attitude was perhaps one of toleration rather than of genuine enthusiasm. In regard to the wages boards, however, most employers were willing to go farther than merely to express a tolerant attitude. They pointed to the gains which had accrued to industry from freedom from strikes and from having all employers placed on the same footing as regards wages. The officers of the Chamber of Manufacturers and of the Victorian Employers Associations — the organizations which had led the opposition to the establishment and extension of the wages boards — were willing to admit

¹ Weinstock, *Report of the Labor Laws and Labor Conditions of Foreign Countries in Relation to Strikes and Lockouts*, pp. 72-73.

that on the whole the wages board system was working well and that the organizations which they represented had ceased to oppose the further extension of the system.

Among trade unionists it is perhaps not surprising that as employers have grown more in favor of the wages boards their own enthusiasm for them has diminished. It is not that trade unionists are opposed to the wages boards. From only one or two of the trade-union secretaries did I get any expression of opinion hostile to the wages boards, and these men represented the extreme radicals, who were opposed to any system which implied friendly agreements with employers. Nearly all the secretaries were willing to admit that the wages boards had brought great benefits to wage earners, especially those who had been poorly organized and who were consequently weak in bargaining power. But they insisted that the time had now come for further advances in the way of industrial regulation. Wages boards had raised the wages of those on the lower levels, but had done comparatively little to advance the standard wage. They could not but contrast the results gained through wages boards with those which had been secured through arbitration courts, especially the Commonwealth Arbitration Court presided over by Mr. Justice Higgins. Furthermore, the wages board could deal only with the questions of wages and working hours, while the arbitration courts had jurisdiction over all industrial matters and could among other things give preference to unionists in the matter of securing employment. It is perhaps not surprising therefore to find that trade unionists in the states which were without state arbitration courts were inclined to compare the results to themselves of wages board regulation with those which had been secured elsewhere through arbitration courts, and to view with

favor the greater possibilities to labor offered by the arbitration courts.

Without having traced the development of compulsory arbitration in Australia and considered the methods and results of this system of industrial regulation, it would be unwise to attempt here any appraisal of the work of the arbitration courts or to make any lengthy comparison of the two systems of wage regulation. A brief statement of the main arguments made for and against the plan to substitute compulsory arbitration for wages boards may, however, not be out of place.

Compulsory arbitration was originally intended to put an end to strikes and lockouts, and judges of the arbitration courts still insist that the maintenance of industrial peace is the principal if not the sole end to be kept in view. Now, as has already been pointed out, the wages board states have shown an even better record in the way of freedom from strikes than have the states which have adopted compulsory arbitration. This is due, the friends of the wages boards claim, to the fact that the representatives of capital and labor have themselves settled by the conference method the important questions of wages and hours, the only matters in dispute which are of sufficient importance to precipitate a strike if not settled by peaceful means. If these and other matters are to be settled by a judge of an arbitration court, a man not directly engaged in industry, his judgment, it is urged, will be less willingly accepted than will the decision of those who are themselves participants in the dispute and consequently bound by their own decision. The opponents of the arbitration system say that a judge is not fitted by training and experience to deal with industrial matters and that he lacks the intimate knowledge of business matters which is possessed by members of a wages

board. Furthermore, the advocates of wages boards point to the greater simplicity and economy of the wages board method of regulation and above all else to the greater facility for transacting business possessed by the boards. A number of boards can be sitting at the same time, handling disputes in several trades. A single arbitration court in any one state would soon be congested with business, and to multiply the courts would only create confusion owing to overlapping of awards and contradictory decisions.

On the other hand, the friends of compulsory arbitration point to the danger, which they believe to be a real one, that employees sitting on a board of which their employers are also members will be afraid to take a decisive stand in favor of a considerable increase of wages or an important reduction in the hours of work for fear of dismissal, or at least for fear that their chances of advancement in the trade will be lessened. Employees who have the courage to take a strong stand for improvement of working conditions will be "marked men" among employers in that trade, it is claimed. A judge need not fear intimidation.

The supporters of compulsory arbitration claim in the second place that employers and employees on a wages board on which the public is practically without representation may easily connive to raise wages with the understanding that the increased cost of production is to be passed on to the public in the shape of higher prices for the articles or service furnished by the trade for which the board makes a determination. A judge of an arbitration court would be far more likely to consider the public welfare and the effect on prices of an increase of wages.

Finally the advocates of arbitration point to the fact that the sphere of influence of a state wages board

is limited to the boundaries of the particular state. It may be unable to raise the wages of even poorly paid labor if the industry is one in which there is keen competition with establishments located outside the state, while on the other hand a state wages board may neglect altogether the interests of people of other states and by its manipulation of the wage scale seek to attract trade to its own state. This claim is of course not advanced in favor of a state arbitration court; but it is a strong argument in favor of extending the powers and activities of the Commonwealth Arbitration Court, and is therefore strongly urged in Victoria. Indeed one may say that the most ominous influence now threatening the Victorian wages boards is the steadily growing power of the Commonwealth Arbitration Court. The political friends of the wages boards, men like Deakin, Mauger, Watt and Murray, see the shadow, but as yet have been unable to devise any satisfactory plan for averting this danger to the boards. When one considers the fact that as industries grow, their markets are not limited by state boundary lines and consequently they can be satisfactorily regulated only by a power which is interstate in character, he can easily see why the power of the Commonwealth Arbitration Court is likely to grow at the expense of the state wages boards and state arbitration courts. But the Commonwealth Arbitration Court is not limited to the regulation of industries which are interstate in character. It has jurisdiction over industrial disputes "extending beyond the limits of any one state."

To get a case heard by the Commonwealth Arbitration Court it is only necessary for employees in establishments situated in different states to make the same demand at approximately the same time upon their employers, which, when refused, constitutes a dispute

"extending beyond the limits of any one state." Laborers dissatisfied with what they have been able to secure through wages boards may easily foment a dispute which will bring their case before the Commonwealth Arbitration Court. The popularity with the laboring classes of Mr. Justice Higgins, who for several years has presided over the Commonwealth Arbitration Court, has increased the desire to get cases into court; and the rapid growth within the past two years of the number of cases presented to the Court for hearing has necessitated the appointment of two additional judges; a development which clearly shows that there is a disposition to make full use of the Court.

Nevertheless, it is not probable that the wages boards will soon, if ever, disappear. Their success and popularity in Australia has been too great to warrant such an assumption. The fact that even the arbitration states have adopted or retained the wages boards and incorporated them into their arbitration systems shows that there is a real need for these preliminary conferences between employers and employees to endeavor to reach an agreement in matters in controversy before the dispute goes — if it does go — to the arbitration court. The fact that in the great majority of cases an agreement is reached in these conferences augurs well for the continuation of the conciliation plan.

M. B. HAMMOND.

OHIO STATE UNIVERSITY.

REVIEWS

MOORE'S ECONOMIC CYCLES

IN this volume¹ Professor Moore again makes use of his characteristic method, developed in his earlier volume on *Laws of Wages*. The method, in brief, is to derive economic laws inductively from statistics by means of the modern refined methods of the calculus of probabilities. The specific problem in the present instance is to derive the law of business cycles of expansion and depression from data as to rainfall, crops, and prices.

First, by an application of Fourier's formula to data as to rainfall in the Ohio valley and in Illinois, he finds that the annual rainfall obeys a compound cyclical law based on cycles of eight and thirty-three years. He then correlates the rainfall at the critical period of growth for each crop with the total yield and with the yield per acre of the principal staple crops. These in turn are correlated with prices of pig iron and with general prices. The laws which he derives from this analysis may be briefly stated as follows. The annual rainfall, as just stated, obeys a law of compound cycles of eight and thirty-three years' duration. The yield of the great staple crops, both the gross yield and the yield per acre, obeys a similar law, presumably in the relation of cause and effect. The upward phase of a period of agricultural productivity brings with it, allowing a lag of a few years, a period of general business expansion, characterized by an increased demand for producers' goods (of which pig iron may be taken

¹ *Economic Cycles: their Law and Cause*. By Henry Ludwell Moore. New York, The Macmillan Company.

The reviewer wishes to acknowledge his indebtedness to Sewall G. Wright for valuable suggestions, and assistance in making the computations involved in preparing this review.

as typical), increased employment of labor, an increased demand for all kinds of goods, and a consequent rise in general prices. This process is arrested when the cycle of agricultural productivity begins its downward phase; and a reverse series of phenomena then appears. In the author's words: "These cycles of crops constitute the natural, material current which drags upon its surface the lagging, rhythmically changing value and prices with which the economist is more immediately concerned."¹

As a necessary step in the logical course of his argument, Professor Moore also makes some interesting studies in demand curves. From tables of the output and prices of certain staple goods he constructs a percentage demand curve by making the abscissas proportional to the percentage change in output for each year above or below the output for the preceding year (each preceding year being successively used as a base), while the ordinates are made proportional to the corresponding changes in prices, similarly computed. From this exploration he emerges with what he appears to regard as a surprising discovery, namely, the discovery of a new type of demand curve. "Our representative crops and representative producers' good exemplify types of demand curves of contrary character. In one case, as the product increases or decreases the price falls or rises, while, in the other case, the price rises with an increase of the product and falls with its decrease."² In connection with this discovery he treats somewhat patronizingly the whole *ceteris paribus* type of reasoning of his predecessors. The universal, negatively inclined demand curve of Professor Marshall is characterized as "an idol of the static state." The fruitfulness of the statistical method is contrasted with the "vast barrenness" of the conventional method.

Take, for example, the question of the effect of the weather upon crops. What a useless bit of speculation it would be to try to solve, in a hypothetical way, the question as to the effect of rainfall upon the crops, other unenumerated elements of the weather remaining constant! The question of the effect of temperature, *ceteris paribus*! How, finally,

¹ Page 149.

² Page 114.

would a synthesis be made of the several individual effects? The statistical method of multiple correlation formulates no such vain questions. It inquires, directly, what is the relation between crop and rainfall, not *ceteris paribus*, but other things changing according to their natural order; what is the relation between crop and temperature, other things conforming to the observed changes in temperature; and, finally, what is the relation between crop and rainfall for constant values of temperature?¹ The problem of the effects of the constituent factors is solved only after the more general problem has received its solution. This method offers promise of an answer to the question as to the relation between the effective demand price and the supply of the commodity.²

A valuable feature of Professor Moore's work is the insertion of the tables of statistics upon which his argument is based. This enables the reader, if so inclined, to check or supplement the reasoning. Numerous periodograms and examples of demand curves also illustrate the subject matter.

There can be no difference of opinion as to the great value of Professor Moore's method. He is doing pioneer work and is doing it with painstaking detail and thoroughness. The more economic theory can be reduced to the status of an exact science, the more serviceable will it become in bringing to finer order and adjustment our intricate and highly organized modern life. It is, therefore, with diffidence that I approach the task of criticizing a book involving at once such keen mathematical insight and such immense industry in laborious detail. Yet, to me, it falls short of conclusiveness. Several links in the logical chain seem to need closer scrutiny.

In the first place, the alleged discovery of an eight-year cycle is suspicious. It certainly does not harmonize with data relating to industrial crises. These are known to follow more nearly a ten-year cycle. Now an eight-year cycle, however adjusted to the dates usually given for crises, would bring some at a period of high prices, some at a period of low prices, and some at intermediate points. It is clear, then, that if Professor Moore's economic cycles are real, they

¹ The full multiple correlation here suggested is not, however, carried out in the text.

² Pp. 67, 68.

represent a phenomenon disconnected with the well known phenomenon of industrial revulsions. This discrepancy led me to undertake an independent study of the data.

It was first observed that the eight and thirty-three year cycles were derived from data as to *annual* rainfall, while the whole argument rests upon the *effective* rainfall at the critical periods of growth of the several crops considered. Professor Moore fails to correlate these two. Perhaps he may have regarded it as safe to assume that if the annual rainfall follows an eight-year cycle, the same would be true of effective rainfall. Yet while a study of the data for annual rainfall reveals a fairly well marked cycle of eight years with an amplitude of 4.13 (p. 24), the periodograms for effective rainfall (pp. 46, 47, 48, 54) show only a very minor indication of an eight-year cycle (amplitudes, 0.21, 1.71, 0.21, 0.24). There is more indication of a four-year cycle (amplitudes, 1.22, 1.39, 1.22, 0.40). The periodograms give the same impression to the eye. Now, later in the text, when general prices are correlated with crops, a lag of four years is allowed to give time for the crops to show their effect in prices. If the cycle of rainfall is four years and if rainfall is the efficient cause of fluctuation in crops, clearly a lag of four years is meaningless — prices could hardly be one full cycle in advance of their efficient cause.

Still, there might be a mean effective rainfall cycle of longer period than four years, but not necessarily eight, which would account for the high correlation between crops and prices noted later in the text. To investigate for such a cycle the following method was employed. It is confessedly less exhaustive than Professor Moore's method of amplitudes but is believed to be fairly conclusive — at least, sufficiently conclusive to form the basis of a working hypothesis. If a series of numbers be given, then by means of the formula,¹

$$r_{xx} = 1 - \frac{1}{2} \frac{\sigma_v^2}{\sigma_x^2}$$

[σ_v = standard derivation of the differences.]

¹ This formula is given in "A short method of calculating the coefficient of correlation in the case of integral variates." J. A. Harris. *Biometrika*, vol. vii, p. 214.

each number in the series may be correlated with its adjacent, its second, its third, its fourth, etc. If the series conceals a true cycle, it will be revealed by this process. For, suppose the cycle to be one of eight years, then when each number is correlated with its eighth, we shall have a high positive correlation, approaching unity. When each number is correlated with its fourth, the result will be a high negative correlation; with its second and sixth, approximately 0; with its adjacent and seventh, a low positive, and with its third and fifth, a low negative correlation. In other words, if there be a true cycle, the application of this method will reveal a cycle of correlations. If a short cycle were superposed upon a larger one, it might well happen that all the correlations would be positive for the minor cycle. Even then there would be a cycle of these positive correlations with respect to magnitude, as is shown in the case of crops. See footnote.

An application of this method to mean effective rainfall failed to give evidence of an eight-year cycle, but did give some evidence of a seven-year cycle, and possibly also of a cycle of between three and four years. The same method applied to data of yield per acre of nine principal crops gave good evidence of a seven-year cycle, but when applied to prices a well-marked cycle of nine years was revealed.¹ These results were checked by constructing historigrams from the data and observing the intervals between successive maxima and minima. Now it is to be noted that in the case of general prices the correlation of each number with its tenth is nearly as high as with its ninth, and a study of the historigram (Fig. 1) reveals points of maxima at 1873, 1883, 1893,

¹ Mean effective rainfall: $r_1 = -0.138$, $r_2 = -0.174$, $r_3 = 0.063$, $r_4 = 0.199$, $r_5 = -0.311$, $r_6 = 0.035$, $r_7 = 0.330$, $r_8 = -0.095$.

Crops: $r_1 = 0.280$, $r_2 = 0.261$, $r_3 = 0.114$, $r_4 = 0.110$, $r_5 = 0.120$, $r_6 = 0.146$, $r_7 = 0.491$, $r_8 = 0.171$.

General prices: $r_1 = 0.600$, $r_2 = 0.390$, $r_3 = -0.260$, $r_4 = -0.525$, $r_5 = -0.310$, $r_6 = -0.330$, $r_7 = -0.034$, $r_8 = 0.201$, $r_9 = 0.401$, $r_{10} = 0.348$.

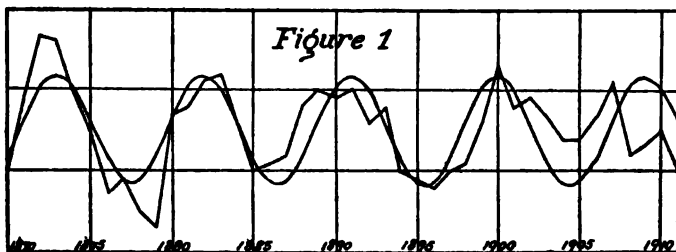
It must be confessed that the figures in the case of mean effective rainfall are very inconclusive. The negative result ($r_1 = -0.138$), when each number is correlated with its adjacent, makes it questionable whether there is any true cycle. The positive correlation ($r_7 = 0.330$), when each number is correlated with its seventh, may be due to mere chance.

and 1907. All of these points are followed by a sharp decline and the dates are those associated with industrial crises. This is certainly suggestive. The other point of maximum is at 1900. There was a crisis in 1903, but here the connection is not so close. The crisis of 1903 appears to have fallen during a decline in prices instead of immediately preceding it. A nine-year periodogram is fitted to the crude data, as shown in the figure. The closeness of the fit is striking.

An apparently strong argument for Professor Moore's theory is found in the high correlation between the yield of crops per acre and general prices, after allowing for a lag of four years. This is surprising, since, from what has been said in the preceding paragraph, the periods appear to be different — one seven years and the other nine or ten years. But an inspection of the historigrams (p. 123) reveals the probable cause of this high correlation. In both cases the minor cycles are superposed upon a larger cycle (possibly Professor Moore's thirty-three year cycle).¹ In the case of crops there is a distinct downward trend from 1870 to about 1892, and from there upward to 1910. In the case of general prices the downward trend extends from 1870 to about 1896 and thence upward to 1910. Hence if a lag of four years be allowed (or even without it), a high correlation would be shown because of these general trends, even if there were no correlation whatever from the minor cycles. I tried the experiment of eliminating these general trends and obtained the following results. Lag of four years, $r = 0.353$; three years, $r = 0.341$; two years, $r = 0.184$; one year, $r = 0.026$. The first of these results, tho much smaller than Professor Moore's ($r = 0.800$), is still striking. The experiment was tried of holding the two historigrams up to a window, one superposed upon the other, and then sliding one upon the other so as to accord with a lag of four years. The crops showed one more complete cycle than the prices in the interval from 1870 to 1910, but, the cycles constructed from the crude data being

¹ Tho in the case of general prices this would be complicated with the effect of changes in the world's gold supply. It would be necessary to apply the method of multiple correlation to eliminate this effect.

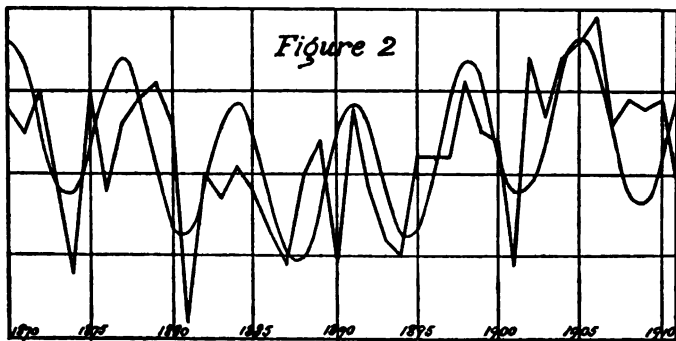
confessedly irregular, there was a rather surprising congruence in some parts of the two histograms.¹ Whether this congruence is to be accounted for by rainfall or by accident can be determined only by data extending over a longer period of time. The histograms referred to in this paragraph, with accompanying periodograms, are shown in Figures 1 and 2. In the case of general prices the trends have been eliminated. In the case of crops they have been accounted for by assuming a thirty-three year cycle.



General Prices: Nine-Year Cycle.

$$\text{Equation; } y = 15.1 + 6.7 \sin \left(\frac{2\pi t}{9} + 330.6^\circ \right).$$

General trends from 1870 and 1910 to 1896 eliminated.



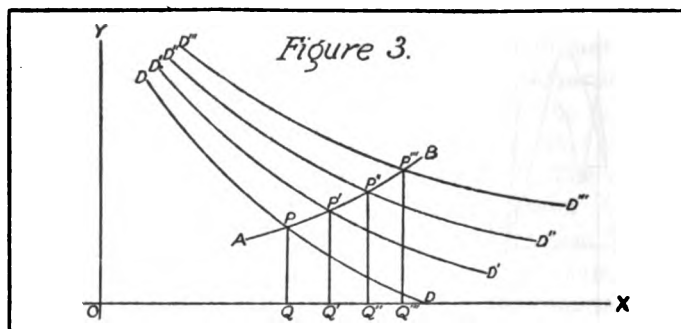
Annual Yield of Nine Crops: Seven and thirty-three Year Cycles.

$$\text{Equation; } y = 102.6 + 4.33 \sin \left(\frac{2\pi t}{33} + 77.3^\circ \right) + 9.34 \sin \left(\frac{2\pi t}{7} + 88.3^\circ \right).$$

¹ This crude visual test is only introduced as suggestive. Needless to say, it falls far short of conclusiveness.

In conclusion of this phase of the subject the suggestion is offered that before any cycles relating to rainfall can be regarded as conclusive, some adequate astronomical or meteorological cause should be adduced.

Professor Moore's studies in demand curves illustrate the principle that the need of checking statistical inductions by abstract reasoning is quite as great as that of verifying abstract reasoning by statistics. The demand curves for crops harmonize perfectly with theory: the conditions of demand remain approximately constant; there is an increased output of crops (very probably due to heavier rainfall); with the diminishing utility due to this increased supply, the marginal utility and hence the price falls. But how about the "new type," the ascending demand curve for pig iron, is it so hopelessly irreconcilable with theory? Not at all. The conditions of demand are changed (very probably by improved business conditions) in the direction of a rapid and continuous increase. This would be indicated, conformably to theory, by shifting the entire demand curve progressively to the right. The ordinates to this shifting curve, corresponding with the lagging supply, will yield Professor Moore's "new type." Thus (see Figure 3):

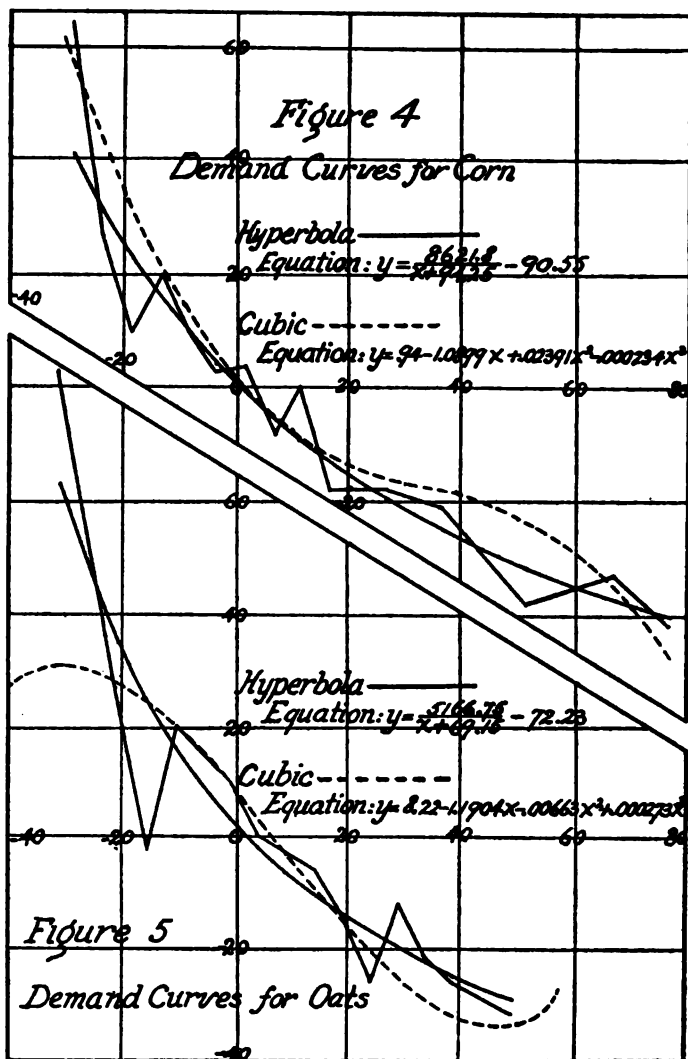


$D, D', D'',$ etc., represent the conditions of increasing demand. $OQ, OQ', OQ'',$ etc., the corresponding lagging supply. $PQ, P'Q', P''Q'',$ etc., the marginal utilities (and hence prices) corresponding with these supplies, and AB the "new type" of demand curve.

The above explanation is essentially that made by Professor Moore himself when he comes to interpret the results of his statistical analysis. The only point here made is the necessity of having a consistent body of theory to interpret just such results as that of the pig iron demand curve. Suppose, for example, we were to accept as universal the inductive law of producers' goods given on page 114. "The price rises with an increase of the product and falls with its decrease"; and suppose, furthermore, that manufacturers of pig iron on the strength of this "universal law" should deliberately double, treble, or quadruple their output in the confident expectation that prices would rise proportionately: I fear that thereafter Professor Moore would not stand high as a prophet among producers of pig iron.

An interesting by-product of the analysis is found in the possibility of predicting prices of the great agricultural staples for any year from estimates as to yield. As already explained the demand curves were constructed by first plotting as abscissas and ordinates the crude data representing the percentage in change in yield and price for each year as compared with the preceding year, and then fitting the best "skew" to the crude data so plotted. The prediction of prices for staple crops is a matter of no little practical importance, especially to large dealers and speculators in futures. To such Professor Moore's method may prove serviceable. May I venture to suggest a slight improvement in respect to the selection of a curve? Professor Moore uses the cubic, $y = a + bx + cx^2 + dx^3$. Now there is no *a priori* reason why the demand curve should assume the form of a cubic. There is no reason to suppose that the demand curves for corn, hay, oats, and potatoes change their elasticity in the curious ways shown near the extremities of the curves on pages 73, 74, 75, and 76.¹ These peculiarities arise simply

¹ Professor Marshall (*Principles of Economics*, p. 161) holds that for "nearly all commodities" the elasticity of demand is greater for the middle range of prices than for prices either very high or very low. This principle might seem to justify the use of a cubic when it takes the form shown in the demand curve for corn (Fig. 4). But it is quite as likely to take the form shown in the demand curve for oats (Fig. 5). This would illustrate a precisely opposite principle, — indeed it shows a condition at its extremities which is obviously absurd.



from the fact that a point of inflection is a property of the cubic. On the other hand there is some slight *a priori* ground for supposing the demand curve to be of the hyperbola type, a curve without points of inflection. In the case of the value of money, it can be demonstrated that the demand curve is the equilateral hyperbola. As Karl Pearson has pointed out, the problem in curve-fitting lies quite as much in the selection of the right type of curve as in the fitting of it to the data when selected.¹ Accordingly the experiment was tried of fitting equilateral hyperbolas to the data for the above mentioned staple crops. The method of moments was employed, the method of least squares being inapplicable. The results obtained in the case of corn and oats are shown in Figures 4 and 5.

In conclusion it is fair to say that Professor Moore's volume is most suggestive and stimulating. Yet it may be questioned whether the main contention of business cycles based upon rainfall is fully proved. As they say in legislative bodies, it would perhaps be best to "refer the whole matter back to the committee for further study."

PHILIP G. WRIGHT.

HARVARD UNIVERSITY.

¹ "Thus, in fitting an empirical curve to observation it is all important to make a suitable choice of that curve, that is, to determine whether it should be algebraic, exponential, trigonometric, etc." — On Systematic Curve Fitting, Part II. *Biometrics*, vol. II, p. 16.

TWO BIOGRAPHIES OF INVENTORS: DICKIN-
SON'S LIFE OF FULTON AND MORSE'S
LETTERS OF MORSE¹

THESE books deserve the attention of economists for the same reason as the life of Edison recently reviewed in these columns.² The biographies of inventors throw light upon the instinct of contrivance, and on the psychological problems connected with it, as well as upon the course of economic development.

There is a curious similarity between the careers of Morse and of Fulton. Both began as painters, and gave promise of at least respectable achievement in the field of art. Both gave up the artist's profession in middle life, and turned deliberately and successfully to the perfecting of mechanical contrivances. Both spent much time in Europe, and there came into contact with distinguished persons of various kinds, evidently making a marked impression on all whom they met. Each is associated with one famous advance in the arts, — Fulton with the steamboat, Morse with the telegraph.

Both biographies contain interesting and novel matter. Tho neither is the first for its subject, neither fails to add substantially to our knowledge. Mr. Dickinson's *Life of Fulton* is based largely upon documentary evidence, and quotes freely from Fulton's letters and memoranda. On the technical side it seems to be excellently done. Mr. E. S. Morse's *Life of his father* is a larger and in some ways more ambitious book, giving a full picture of a most remarkable personality. The first volume follows that part of Morse's career in which he was a painter, and a painter of distinctly more promise than seems ever to have been the case with Fulton. The second volume deals with his later years, when

¹ H. W. Dickinson, *Robert Fulton, Engineer and Artist; his Life and Works*. London and New York, John Lane, 1913.

Samuel F. B. Morse, *His Letters and Journals*, edited by E. L. Morse, 2 vols. Boston, Houghton Mifflin Co., 1914.

² Vol. xxvi. p. 776 (August, 1912).

he was absorbed in the telegraph. It is difficult to conceive anything more extraordinary than the complete change that took place in his interests and ideals. The refusal of a congressional committee to give him a commission for painting a panel in the rotunda at Washington seems to have completely crushed his ambition as a painter. He turned at once to the development of the telegraph, for which the essential device had long been in his mind. Morse's letters, as published in these volumes, give accounts of his European experiences as a painter, and of similar experiences in later life when the telegraph had made him famous. They are interesting quite apart from the aspects which concern the economist.

Fulton shows all the characteristics of the born inventor. Tho not fairly bubbling over with new contrivances, like Watt, Cartwright, Ericsson, and Edison, he gave attention to a number of inventions and experimented all his life with one or another of them. As a young man he went to England, and there tried to establish his position and earn his living as a painter. But he was interested at the same time in the crowd of schemes and experiments then in vogue in England as well as in the United States. This was the era of canals, and Fulton elaborated a scheme for small canals, with inclined planes, by means of which light canal boats were to be hauled from one level to another; a substitute for locks which illustrates the fertility as well as the impracticability of so much scheming among inventors. He devised an early panorama, which proved profitable in Paris and for some time was his main source of support. He was enthusiastic about a submarine boat, in which he succeeded in enlisting for a while Napoleon's interest. The craft was entirely unmanageable with the motive powers then known, and Napoleon was shrewd enough to let it go after a little examination. Nevertheless, Fulton succeeded so far in frightening the British Admiralty about its possibilities that he was bought off for a handsome sum, and so was enabled to make his way to the United States. After his return to his native country, he gave his attention almost solely to the

steamboat, for which he had already formed the well-known partnership with Livingston. It deserves to be remembered that while in England he saw much of the indefatigable Cartwright, and doubtless got much stimulus from that prolific person.

It is clear that the instinct of contrivance was strong in Fulton. But he was far from indifferent to pecuniary considerations. He bargained most persistently with the French and the British about his submarine and his torpedoes. He labored assiduously to get a steamboat monopoly on the Hudson for his partnership, and to get similar exclusive privileges on the lower Mississippi and on the Neva (from Petersburg to Kronstadt). Apparently he dropped painting because there was little prospect of good remuneration from it; his work had been chiefly upon portraits and miniatures. His biographer remarks that "it cannot be denied that he never neglected an opportunity for profiting pecuniarily by his inventions." There was doubtless some unconscious inversion of emphasis when he wrote to his friend Joel Barlow about the steamboat, "Although the prospect of personal emolument has been some inducement to me, yet I feel infinitely more pleasure in reflecting on the immense advantage that my country will draw from the invention."

Morse showed in the early part of his career less evidence of the contriving bent than Fulton. Indeed, in this biography little is said of the evidences of mechanical talent and interest during the first period of his life. More material on this aspect of his career is to be found in previous biographies, and more particularly in that of Prime. It was natural enough that among the devices to which he gave attention as a young man was a machine for reproducing statuary. A piece of mechanism for the same purpose, it may be noted by the way, had also long engaged the interest of a more celebrated inventor, James Watt; like other devices, it was experimented with at least a century before being brought into serviceable shape. Morse was also keenly interested in Daguerre's invention. He corresponded with Daguerre, first suggested the possibility of taking photographs of living persons, and for

a while supplemented his income by making such photographs for profit. Nevertheless, it remained true that painting absorbed his interest during his earlier career, and that in later life the one invention to which he gave assiduous attention was the telegraph. The plan for a dot and dash alphabet seems to have flashed across him during the voyage across the Atlantic on the *Sully*. It was years, however, before he turned to its detailed development, — a consequence, as already noted, of the crushing disappointment of 1837. His enthusiasm for art seems to have ceased with extraordinary suddenness when the congressional committee in that year refused to give him the commission for painting the Rotunda panel. Thereafter for many years he labored with a pertinacity that was almost monomaniac on the elaboration of the telegraphic device.

Morse was an unusual person in every way. He had wide interests and an impressive and attractive personality, but also eccentricity and an unmanageable temper. He was almost always in hot water, carrying on vehement controversies with all sorts of people, and too often quarreling with his associates. Characteristics of this sort appear commonly enough in the make-up of persons who have the creative temperament. His son, who edits this biography with frankness as well as with filial devotion, admits that there was much to deplore in what was said and written by the father. Morse had strong religious faith of the orthodox sort, and believed himself an instrument in the hands of the Deity for achieving great results. It was no doubt a manifestation of this sort of religious faith that he had an extraordinary fear of the Roman Catholics, and honestly believed in the existence of a Roman Catholic plot for getting control of the United States. This same religious belief explains his attitude toward slavery. One who read the Old Testament with the sort of faith that Morse had might easily believe that slavery was a social condition ordained by divine wisdom for certain communities, and not at all a sin; which in turn explains why he was lukewarm for the North during the civil war, and might be described as a copperhead. In perfecting the telegraph he felt, with un-

questionable sincerity, that he was doing a great work for the glory of God. It gave him vast satisfaction that the first passage which was flashed across the wires was a phrase from the Old Testament: "What hath God wrought!" He wrote to his brother, "That sentence was divinely indited."

It is not at all inconsistent with a temperament of this sort that he should also have a keen eye for the main chance. It seems tolerably certain in his case that the instinct of contrivance did not operate spontaneously. It was stimulated, if not evoked, by the prospect of gain. Morse turned frankly from painting to inventing as a means of providing for his family and securing a competence or fortune. Those who believe that the instinct of contrivance would work out the same results in the absence of a patent system or other provision for reward will find little confirmation in his career. Probably a similar conclusion would be indicated by the careers of others who, like himself, belong not in the very first rank among inventors, but in the respectable second rank. An extremely small number of persons have the contriving instinct with great intensity. A very much larger number possess it in some degree, but are not irresistibly impelled by it. Whatever be the case with those of contriving genius, the inventors who have only high talent seem to need the spur of reward.

F. W. TAUSSIG.

HARVARD UNIVERSITY.

NOTES AND MEMORANDA

THE ECONOMIC SYNTHESIS: A REPLY

IN view of the importance and authority of the *Quarterly Journal*, I cannot let pass without a reply the review of my *Economic Synthesis* by Professor Clive Day, published in the February issue. I would not lay stress on the unnecessarily aggressive temper of the review, nor show the inconsistencies between the opinions of my critic and those of the many scholars who have judged the book differently, or even the inconsistencies in his own opinions, — the latter perhaps would be easier. In truth, there seems to be an inconsistency in writing so many pages, some of them no doubt suggestive, about a book which at the very outset is declared to be not worth reading.

I write these lines simply to protest with all my power against a literalness of exegesis which perhaps would be admissible as regards the Bible and the Koran, but which is quite out of place in discussing a work of science. Professor Day brings together all the pages in my book in which the word "subsistence" appears, and discovers that what I say in one place is not absolutely in accord with what I say in another. Why, instead of merely scanning minutely the words, like a glossarist of the Middle Ages, has he not considered the ideas? Had he done so, he would have seen that there is not a shadow of inconsistency in my exposition. What I say comes in substance to this. Subsistence is equal to the product of isolated labor, supplied with the necessary technical capital; whereas this same labor, as soon as it is associated, produces something in addition, which is *revenue*. Subsistence certainly is not luxury, not even comfort. It

coincides essentially with the necessities of the worker. But it has nevertheless to be understood, and I have taken care to repeat it many times, that these necessities, which are rather moral than physical, by no means coincide with the minimum indispensable for life. They are not the same as starvation wages, which they may readily surpass. Hence there is no inconsistency on my part if I admit that the capitalist does his utmost to lower wages below the normal level fixed by subsistence, and that the laborer in turn endeavors to bring wages back to this level. This is the basis of the contest between capital and labor. In the same way there is no inconsistency if I admit the possibility that the laborer may save a part of the wages or of the subsistence which he gets, even tho at the cost of severe privation.

I must also protest against the way in which my critic has stated some of my propositions. For example, according to him, I have said that "the quantity of incomes produced in a nation is determined by the quantity of capital productively employed, by the quantity and productivity of the land, by the quantity of public and private securities issued." Stated in this way, my proposition, I admit, would be an absurdity. But the passage referred to says nothing at all about the determination of total income; it bears exclusively on the classification of the different kinds of income, and says precisely this: "The quantity of the various consolidated and fluctuating incomes produced in each nation is determined by the quantity of capital productively employed," and so on (p. 154). This is an incontestable truth. Evidently for instance, the total volume of interest or dividends on public securities in a nation is the precise result of the amount of the public debt which has been issued.

Like every student of economic history, I know the various theories about the origin of the ancient agrarian community. I am well aware that the aristocratic theory of Kemble, Fustel de Coulanges, Seebohm, is in opposition to the democratic theory of Maurer, Vinogradoff, and others. I am well aware also that this controversy (which at bottom is a repetition of that carried on in the eighteenth century between

Boulainvilliers and Dubos) can be the occasion of much interesting discussion, as indeed I have indicated. But all this has nothing to do with the particular subject of my book, which is not concerned with any analysis of the political or legal aspects of the primitive community or with its free or servile origin. The book simply considers the technical and economic structure of the community, the processes of production and distribution as regards the productive agents and the product. Now, on this subject the theorizers of the two opposing schools are entirely in agreement. It suffices to compare the remarks of Seeböhm (*The English Village Community*, 3d ed., London, 1884, pp. 123, 226, etc.) with those of Vinogradoff (*The Growth of the Manor*, London, 1905, pp. 165, 183; *English Society in the Eleventh Century*, London, 1908, pp. 216, etc.) on the organization of production and distribution in the English agrarian community. The comparison shows that these two authorities give an absolutely identical picture of the economic form, and that they represent it as a coercive association of labor organized by a central authority which endeavors to maintain substantially equal partition among the associates. This is all that I wish to bring out.

Professor Day makes the following criticism, "In Loria's mind there is no history, but only political economy stretching back over countless centuries of time." No less a person than Ricardo has been criticized in these identical words, and it might be considered a high honor for me to deserve it. But have I really deserved it? I think not. I have never believed that the economic phenomena analyzed by me are the whole of history, that they comprise the whole of humanity. Far from it; I should be the first to admit that these facts would present only one aspect, more or less fragmentary, in the general history of the species. Yet, admitting all this, one cannot doubt the enormous importance of these phenomena or their great historical significance. For example, it would certainly be absurd to believe that the efforts of the slaves and serfs to buy their liberty comprise the entire history of the periods in which these phenomena are found,

or even that they comprise everything that can be said on the evolution and decay of slavery and serfdom. But no penetrating thinker can doubt that this is an economic phenomenon of fundamental importance. The fact that the slave and serf employed his money, as soon as it had reached the requisite amount, for buying his liberty, which opened to him access to landed property, was far from being "a creation of my imagination of which I could give no proof"; it was formally embodied in legislation. It suffices to cite the rescript of Marcus Aurelius and of Severus about *servus suis nummis emptus*, where the manner and the effect of the purchase of the slaves by himself are carefully regulated (Buckland, *The Roman Law of Slavery*, Cambridge, 1908, pp. 606 *et seq.*). Now the effort was always made to counteract the slave's endeavor to buy himself by raising the price in such way that it should exceed somewhat the amount of his savings. And hence it is that the price of slaves, as has been well said by one of your own economists, Mr. Philipps, is the central fact in slavery. If Professor Day prefers to hold a different opinion, if he finds this analysis simply grotesque, I have nothing more to say.

According to my investigations, so long as the isolated laborer produces all his subsistence, he never associates his labor with that of another, and in consequence the association of labor takes place by compulsion, — either through the compulsion of a collective authority, as in the ancient communities or despotisms, or through that of a private capitalist, as in the case of a bonanza farm. But it follows also that if the isolated laborer does not succeed in producing his entire subsistence, his opposition to the association of labor ceases, and the association becomes spontaneous. This conclusion, which Professor Day calls nonsense, is simply the logical outcome of premises established with precision.

I might add that my critic, notwithstanding the exuberance of his detailed remarks, finds not a word to say about my chapter upon the rational imposition of taxes, or on my studies concerning the distribution of revenue, the contest between the different revenues, the pyramidal distribution of

funded incomes which results from this struggle, — all subjects which form the essence and core of my book. I merely note these topics in order to enable your readers to judge for themselves the solidity and impartiality of my critic.

ACHILLE LORIA.

TURIN, ITALY.

DEPRECIATION AND RATE CONTROL A QUESTION OF JUSTICE

PROFESSOR ALlyn A. Young's recent heretical utterances on depreciation in the valuation of public service properties for the purpose of rate control, compel every true believer to gird on his armor and come forth in defense of the faith.¹ Professor Young's ideas are dangerous and his arguments are plausible; so all the more zeal for their destruction! So long as they had been advanced only by engineers and public utility experts employed by the corporations, or perhaps even by Mr. James E. Allison and the St. Louis Public Service Commission, there was no need for serious alarm. But when they are taken up by Professor Young, a vigorous thinker and a progressive economist of high standing, then indeed it is time to rush for the defense of righteous belief.

Professor Young's principal thesis is that when a public utility is newly brought under regulation and its property is valued for the purpose of rate control, to deduct accrued depreciation from cost new would be unjust to the investors. The rates to be fixed in any case will presumably be just so high that the revenues will cover operating expenses and bring a reasonable return upon the valuation. Professor Young assumes that in the great majority of instances, a public service company, before it was brought under active

¹ "Depreciation and Rate Control," *Quarterly Journal of Economics*, vol. xxviii, pp. 630-663, August, 1914.

regulation, did not include in operating expenses provisions for accruing depreciation and therefore did not build up a depreciation reserve; that instead it maintained the efficiency of the plant by charging to operating expenses the cost of replacements, and calculated its annual profits accordingly; that it had made its investments with the expectation that returns were to be received upon the full money outlay in the business, and had not made excessive gains from the property. If under such circumstances, the newly prescribed accounting standards require current depreciation to be included in operating expenses, and if the valuation upon which a return is allowed be cost new less past accrued depreciation, Professor Young urges that the company would not get the return the expectation of which induced the investment, and would therefore be treated unfairly by regulation.

Most economists and students of public utility matters probably do not agree with Professor Young's position. The danger, however, in formulating an adequate criticism against his view is to base one's argument upon pure scientific grounds, as if the matter involved fundamental principles of economics and accounting. This, it seems to me, is the difficulty with the recent criticism presented by Mr. Joseph S. Davis, in his otherwise very excellent discussion.¹ Professor Young does not base his conclusion on accounting principles, but on principles of justice or sound public policy, — which, incidentally, is also the basis for all public regulation, including valuation and the fixing of rates. When Mr. Davis, therefore, considers accrued depreciation as that part of the original value of the property which has been consumed in service, and presents it as an economic fact *which is*, whether shown in the accounts or not, he misses, it seems to me, the essential point in public utility valuation. Professor Young seems quite right when he urges that we have not to do with value as such but with *value for the purpose of rate regulation*. The one belongs in the realm of general economic law, but the other is wholly a thing of public policy.

¹ "Depreciation and Rate Control: A Criticism," *Quarterly Journal of Economics*, vol. xxix, pp. 362-378, February, 1915.

Mr. Davis appears to be entirely wrong when he insists that a public service corporation is rightly entitled to a return upon the *value* of its property, measured according to its productive power, shown in the accounts as cost less accrued depreciation. Not even in unregulated business can it be claimed correctly that the value of a property is equal to its cost less accrued depreciation (when the latter is based upon the cost and expected life of the different classes of property), unless special adjustments are made for the value of earning power greater or less than normal. The value of an industrial property is, of course, determined by earning power, or productive power (to use Mr. Davis' phrase), and not by cost, as Mr. Davis' argument seems to imply. But in regulated business, we are not seeking the value of a property but a fair valuation for the purpose of control. It is true, the courts in the consideration of rate cases have quite consistently held that it is the "value" of its property upon which a company has a constitutional right to earn a reasonable return; still, practically they have allowed valuations to be made for the most part on the cost of reproduction basis, with due allowance for accrued depreciation. This, it should be emphasized, is not value in the sense used by Mr. Davis, but value for rate regulation as considered by Professor Young. It should be clear that if economic or market value were to be taken as the basis of rates, regulation would be useless, for it would get nowhere. Value would be dependent upon earning power, which would depend upon the rates to be fixed,—the familiar circle.

Actually, however, whatever the language of the courts may be, it is not value but cost which has become the accepted basis of rate regulation, and the proper basis of valuation, let us repeat, is not a matter of economic law, but one entirely of public policy. And in deciding upon the best policy we may very well consider actual cost as against cost of reproduction, or in either case whether the cost should be new or with deduction for accrued depreciation, or even with deductions for other matters. The decision must rest upon broad expediency, which, of course, involves questions of

justice as between the immediate owners and the public, for whose welfare the property is to be operated.¹

What we wish, it seems, is such a policy of valuation for rate control as will serve best or promote most the general welfare. It is not to be doubted that Professor Young admits regulation itself to be desirable. If a given policy *in general* promises to serve the public interest best, it should not be set aside merely because some individuals or relatively small classes are likely to suffer some injury or inconvenience. Regulation apart from the question of valuation, in so far as it has hampered opportunity for personal gains, has unquestionably brought losses to special classes; but surely it cannot be considered socially unjust for that reason, so long as it has really promoted the welfare of the country at large. And the question of valuation should be viewed in exactly the same way. Still, we should avoid so far as possible any serious individual injury or loss.

From the broad view just presented, it seems that Professor Young has disregarded several important considerations, which, if given proper weight, might easily have led him to a different conclusion than that he has presented. Possibly Professor Young may not agree at all as to the best policy with the almost universal practice in providing for complete maintenance of public service properties. The present almost universal practice is to require the inclusion in operating expenses of charges for so-called current depreciation, in addition to the cost of all minor replacements. Then as major replacements are made, they are charged to the property accounts, and the depreciation reserve is debited with the original cost of all property retired. Apparently in the case of large and varied properties at least, Professor Young would prefer a somewhat different procedure. Instead of providing currently for accruing depreciation, he would charge to operating expenses the cost of all replacements as they are made, thus avoiding what he terms a useless reserve. I do not consider that there is here a great economic principle at

¹ A friend, Mr. P. W. Saxton, suggests quite rightly that the proper method of valuation involves also a question of justice between the present generation of utility users and following generations.

stake; we are dealing merely with desirable operating practice, and I believe that the prevailing methods are for the most part sound.¹ Professor Young, however, appears not to object especially to making provision for complete maintenance through depreciation charges, and in so far as such charges have been made he seems not to object in valuation to deducting accrued depreciation from the cost new of the property.

Suppose, then, we decide for the future to make depreciation charges, with the general idea of including in rates a reasonable return upon the cost of the property with deduction for accrued depreciation. Professor Young, then, apparently admits that this basis of valuation would not be unjust and that perhaps it may be the most desirable in reference to depreciation accrued and charged to operating expenses after the new policy was established. But he would consider it unjust in so far as it were to apply to depreciation accrued before regulation was begun. But if the general policy for the future is desirable, then Professor Young should consider the practical difficulty of determining in any appraisal with even rough accuracy between depreciation accrued before regulation was established and that accrued during the period of regulation, — the latter to be deducted from cost and the former not. If in general, for the future, cost less accrued depreciation is the desirable basis of valuation, then the injustice that would be wrought upon investors by following the method throughout, should be very clear and really serious, before we attempt the tremendous difficulty of determining in any case the depreciation accrued prior and that accrued subsequently to any particular time.

¹ Undoubtedly the operating efficiency of a property would be maintained equally well whether depreciation or the cost of replacements were charged to operating expenses. The principal objection to the second method is that complete maintenance charges would be irregular from year to year, probably even in the case of a very large and varied property. A second objection is, it would be difficult in many cases to distinguish between additions or betterments, which would be chargeable to the property accounts, and replacements, which should go to operating expenses. Of course, all installations might be charged to the property accounts, including in operating expenses the original cost of property retired. This procedure, however, would probably increase the irregularity of operating charges. It is doubtless chiefly on account of these difficulties that the prevailing practice has become established.

If the method in general is satisfactory, the special desirability of departing from it in any way should be shown beyond much possibility of doubt. This, it seems to me, Professor Young has not shown.

Let us assume that the *general* method of valuation followed by the commissions is desirable, and that on account of the difficulties involved, no departure should be made from it unless fairly serious injustice would be brought upon special classes in society. In this connection it is worth while to point out several important facts which Professor Young passed over with slight, or without any consideration. In the first place, we must remember that before regulation was actively begun, public utilities had no regard for costs in fixing rates or prices for their services. They charged what the traffic would bear, making in each case all the profit that they could. True, on the average they were probably not excessively profitable; but nevertheless, they took all they could, and in no case of inadequate returns would the profits probably have been less under regulation. Some properties were undoubtedly profitable beyond reason, the average probably made just reasonable returns, and some certainly did not justify their investment, but nevertheless had a free chance to do so. Where, then, is the clear injustice if in valuation throughout we deduct for all past accrued depreciation?

Since the time of the so-called Granger cases it has been undoubted law that public utilities were invested with a public interest and subject to rate regulation. Every investment has been made subject to this public right. If for a long time the right was not definitely formulated into a policy, it nevertheless existed, and the investors have known that it was there. Have they suffered by the non-use? If now, therefore, we definitely formulate the right and enforce it, who is seriously injured? Certainly the investors in the highly profitable or even in the average properties have no cause for complaint, for we might have regulated them sooner. The others had a free chance to get all the profit that they could, and for the future they will still have the opportunity, if the business will permit it, to charge such rates as to bring

reasonable returns upon their investment as defined by accepted valuation standards. If they were not profitable in the past, they may not be so in the future, but they will still have the opportunity of obtaining fair profits, and will probably be better guarded from competition. Where, then, is the serious injustice?

Actual valuation policy, in so far as it has been worked out, is based upon cost of reproduction and not the actual cost of the property, much less the cost to the corporation. If long ago actual cost had been made the basis of valuation, investors would have had no ground for objection; the basing of returns upon actual investment would then be fair enough. Now, however, we base the valuation upon the cost of reproduction, which in view of the high level of present prices, results in most cases in a valuation appreciably greater than actual investment. In the case of old properties, where the apparent injustice which Professor Young urges would be the greater, the excess of reproduction cost over actual investment is also the greater, — for the most part probably fully or more than offsetting accrued depreciation.¹ Should this point not be considered pretty thoroly before we make an exception to an otherwise desirable method of valuation?

Professor Young has curiously passed over a point in current practice, which, it seems to me, disposes of any doubt in the question before us. He makes no reference to so-called *going-value*, which is allowed in a physical appraisal by most of the state commissions and seems to be required by the courts.² While *going-value* has not been definitely and authoritatively defined, it covers for the most part early developmental expenses incurred by a company, operating deficits, and deficiencies in reasonable return upon investment. Thus, the official valuation in any case is the cost of the prop-

¹ Since 1897, general prices have advanced fully fifty per cent, and land used for utility purposes usually several hundred per cent, while even in the case of a very old and stationary property, the extreme accrued depreciation over actual cost cannot be over fifty per cent. The term actual investment means the money cost of a property at the time of installation of the several parts.

² See *Kings County Lighting Case*, 210 N. Y. 479.

erty, less accrued depreciation, plus going-value. If a company from the first has obtained a reasonable return upon its investment, that is all that it was entitled to receive and for the future it will be treated fairly enough if it may get a return upon the cost of the property less accrued depreciation. But, if it has not been reasonably profitable, the deficiencies may be capitalized and added as going-value to the physical valuation of cost less accrued depreciation. With going-value or past unprofitableness thus provided for, where is the injustice upon which Professor Young so forcefully insists?

As a matter of fact, considering the policy of valuation as it now stands, with cost of reproduction and allowance for going-value, are we not rather more than just to the investors? Would the ordinary sense of justice be especially outraged if accepted valuation did not allow the capitalization of operating deficits and deficiencies in return, or were to include only actual cost less depreciation? But we include even land or other property granted free to corporations by federal, state, or municipal governments; we often allow items for which no costs were incurred by the investors, and in some cases there appears an inclination even to allow the capitalization of franchises on the basis of earnings, — thus promising to shut off all possibilities of rate reduction.¹ If going-value is to be allowed in case of deficiency in past returns when the company has fixed prices with regard only to maximum profits, may we not suggest that a corresponding deduction from the physical valuation might be made when excessive returns have been realized? While there have been some judicial dicta in line with this suggestion, the idea has never been seriously advanced. But, if justice to investors really demands an addition to physical valuation for past deficiencies in return, is it not reasonable to ask whether justice to the public would not require a reduction for excessive actual returns? If investors are entitled to a fair return on their

¹ See the Patterson Gas Case, Public Service Gas Co. v. Board of Public Utility Commissions, New Jersey Court of Errors and Appeals, November Term, 1913, decided December 10, 1914. — It is stated that a rehearing is to be held on this case.

investment and no more, and if deficient returns shall be added to the investment, then why should not excessive returns be deducted from the investment ?

I do not wish to support the suggestion just made, but it has nevertheless a place in the consideration whether present valuation practice is unjust to investors. Much may be urged in criticism of existing valuation practice; but in view of the above considerations, Professor Young had an exceedingly difficult task in making out a case of injustice to investors. Has he succeeded ?

JOHN BAUER.

CORNELL UNIVERSITY.

BOOKS RECEIVED

- Andréadés, A. *Financial Administration of the Nations in the Ionian Islands*. 2 vols. Athens: Hestia. 1914. pp. 415, 350. (In Greek, with a French preface and table of contents. The period chiefly covered is the 17th and 18th centuries.)
- Argentine Republic, Buenos Aires. *Year-Book of the City of Buenos Aires, 1913*. Buenos Aires: Government. 1915. pp. 327.
- Argentina, Ministerio de Agricultura. *Censo Comercial e Industrial de la República, Boletín No. 20*. Buenos Aires: Ministerio de Agricultura. 1915. pp. 84.
- Babcock, K. C. *The Scandinavian Element in the United States*. Urbana: University of Illinois. 1915. pp. 223. \$1.15. (University of Illinois Studies in the Social Sciences.)
- Barron, C. W. *The Audacious War*. Boston: Houghton Mifflin Co. 1915. pp. 192. \$1.00.
- Beard, Mary R. *Woman's Work in Municipalities*. New York: D. Appleton & Co. 1915. pp. 344. \$1.50.
- Böhm-Bawerk, Eugen von. *Kapital und Kapitalsins, Erste Abteilung: Geschichte und Kritik der Kapitalsinssteorien*. Innsbruck: Wagner. 1915. pp. 747. M. 18. (Third edition, revised; thus completing the 3d edition of the entire work.)
- Bennett, W. P. *The History and Present Position of the Bill of Lading*. Cambridge, Eng.: University Press. 1915. pp. 101. 4s.
- Cartwright, O. G., and Anthony, Katharine. *The Middle West Side. Mothers Who Must Earn*. New York: Survey Associates. 1915. pp. 67, 223. \$2.00. (Russell Sage Foundation, West Side Studies, carried on under the direction of Pauline Goldmark.)
- Carver, T. N. *Essays in Social Justice*. Cambridge: Harvard University Press. 1915. pp. 429. \$2.00.
- Casualty Actuarial & Statistical Society of America. *Proceedings of the Inaugural Meeting*. Lancaster, Pa.: New Era Printing Co. 1915. pp. 76.
- Clarke, A. G. *A Text-Book on National Economy*. London: P. S. King & Son. 1915. pp. 105. 3s. 6d.
- Cole, W. M. *Accounts: Their Construction and Interpretation*. Boston: Houghton Mifflin Co. 1915. pp. 445. \$2.25. (Revised and enlarged edition.)
- De Witt, B. P. *The Progressive Movement. A Non-partisan, Comprehensive Discussion of Current Tendencies in American Politics*. New York: Macmillan. 1915. pp. 376. \$1.50. (In Citizen's Library of Economics, Politics and Sociology.)
- Doraiswami, S. V. *Indian Finance, Currency and Banking*. Madras: S. V. Doraiswami. 1915. pp. 176, lxxxii. Rs. 2/8.
- Drum, John S. *Brief: Reciting the Facts which sustain the Position of the Banks of California with Respect to the Proposed Increase in the Rate of State Taxation*. Legislative Committee of the California Bankers' Association. 1915. pp. 20.

- Eldridge, Seba. *Problems of Community Life: An Outline of Applied Sociology*. New York: Thomas Y. Crowell. 1915. pp. 180. \$1.00.
- Ellwood, C. A. *The Social Problem*. New York: Macmillan. 1915. pp. 255. \$1.25.
- England, Board of Trade. *Seventeenth Abstract of Labour Statistics*. London: Government Printing Office. 1915. pp. 348. 1s. 6d.
- Gehlke, C. E. *Emile Durkheim's Contributions to Sociological Theory*. New York: Longmans, Green & Co. 1915. pp. 188. \$1.50. (Columbia University Studies, Vol. LXIII, No. 1.)
- Gould, C. P. *Money and Transportation in Maryland, 1720-1765*. Baltimore: Johns Hopkins Press. 1915. pp. 176. (Johns Hopkins University Studies.)
- Harris, R. S. *Practical Banking, with a Survey of the Federal Reserve Act*. Boston: Houghton Mifflin Co. 1915. pp. 309. \$1.75.
- Haworth, P. L. *America in Ferment*. Indianapolis: Bobbs-Merrill. 1915. pp. 477.
- Holt, L. H. *An Introduction to the Study of Government*. New York: Macmillan. 1915. pp. 388. \$2.00.
- Hooper, W. E. *Railroad Accounting*. New York: Appleton. 1915. pp. 461. \$2.00.
- Hutchinson, Lincoln. *The Panama Canal and International Trade Competition*. New York: Macmillan. 1915. pp. 283. \$1.75.
- Italy, Institut International d'Agriculture. *Annuaire International de Statistique Agricole, 1911 et 1912*. Rome: L'Institut International d'Agriculture. 1915. pp. 622. 5 frs.
- Kellor, F. A. *Out of Work: A Study of Unemployment*. New York: G. P. Putnam's Sons. 1915. pp. 569. \$1.50.
- King, C. L. *Lower Living Costs in Cities: A Constructive Program for Urban Efficiency*. New York: D. Appleton & Co. 1915. pp. 355. \$1.50.
- Lippincott, Isaac. *A History of Manufactures in the Ohio Valley to the Year 1860*. New York: Knickerbocker Press. 1915. pp. 214.
- McFarlane, John. *Economic Geography*. New York: Macmillan. 1915. pp. 560. \$2.25.
- National Tax Association. *Proceedings of the Eighth Annual Conference*. Madison: National Tax Association. 1915. pp. 499.
- Rappard, W. E. *La Révolution industrielle et les origines de la protection légale du travail en Suisse*. Berne: Staempfli & Cie. 1915. pp. 343. 8.75 fr.
- Reed, Susan Martha. *Church and State in Massachusetts 1691-1740*. Urbana: University of Illinois. 1915. pp. 208. \$1.05.
- Ricci, Umberto. *Les bases théoriques de la statistique agricole internationale*. Rome: L'Institut International d'Agriculture. 1915. pp. 314. 5 fr.
- Rohrbach, Paul. *German World Policies*. New York: Macmillan. 1915. pp. 243. \$1.25. (Translated by Edmund von Mach.)
- Rose, J. H. *The Origins of the War*. Cambridge, Eng.: The University Press. 1915. pp. 201. \$1.00. (Lectures delivered at Cambridge, 1914.)
- Scott, J. F. *Historical Essays on Apprenticeship and Vocational Education*. Ann Arbor: Ann Arbor Press. 1915. pp. 96.
- Segre, Arturo. *Manuale di Storia del Commercio, Vol. 2: Dalla Rivoluzione Francese ai giorni nostri, 1789-1913*. Torino: S. Lattes & C. 1915. pp. 513.
- Smithsonian Institution. *Annual Report for 1913*. Washington: Government Printing Office. 1915. pp. 804.

- Suffern, A. E. Conciliation and Arbitration in the Coal Industry of America. Boston: Houghton, Mifflin Co. 1915. pp. 376. \$2.00. (Hart, Schaffner and Marx Prize Essays in Economics.)
- Tangorra, Vincenzo. Trattato di Scienza della Finanza, Vol. I. Milan: Società Editrice Libraria. 1915. pp. 884. L. 20.
- Tennessee, Committee to Investigate Assessment and Taxation. Report. Nashville: McQuiddy Printing Co. 1915. pp. 108.
- True, Ruth S. Boyhood and Lawlessness. The Neglected Girl. New York: Survey Associates. 1915. pp. 215, 143. \$2.00. (Russell Sage Foundation, West Side Studies, carried on under the direction of Pauline Goldmark.)
- U. S. Department of Labor. Government Aid to Home Owning and Housing of Working People in Foreign Countries. Washington: Government Printing Office. 1915. pp. 451. (Miscellaneous Series No. 5.)
- Uruguay, Director General de Estadística. Anuario Estadístico, 1909-10, Libro XXII, Tomo II. Montevideo: Juan J. Dornaleche. 1915. pp. 449.
- Wagel, S. R. Finance in China. Shanghai: North China Daily News and Herald. 1915. pp. 503.
- Wheeler, H. D. Are We Ready? Boston: Houghton Mifflin Co. 1915. pp. 228. \$1.50.
- Wickware, Francis G. (Editor). The American Year Book, 1914. New York: Appleton. 1915. pp. 862.
- Women's Educational and Industrial Union. The Public Schools and Women in Office Service. Boston: Women's Educational and Industrial Union. 1915. pp. 187. 80c. (Studies in Economic Relations of Women, Vol. VIII.)

THE
QUARTERLY JOURNAL
OF
ECONOMICS

AUGUST, 1915

THE CONCEPT OF VALUE

SUMMARY

Need of enlarged concepts, 663. — The "ratio" argument non-essential, 664. — The word "rate" might avoid unnecessary verbal implications, 668. — Relation and quality two phases of one fact, 672.

THE concept of value is the core of economic thinking, and modern economics is older than American independence, yet the builders of the science are still disputing what value is, or how it shall be conceived. This is altogether necessary and proper, for the concept is by no means in final shape. Indeed, one may hazard the prediction that progress in economic philosophy in the next half century will hinge on the adoption of new and enlarged meanings for its fundamental terms. Only so can we do for the twentieth century as much as our classical forefathers did for their time. It is a question how long nineteenth century formulations will stand the strain of twentieth century development. Our growing mass of economic regulations and social reforms, our general institutional iconoclasm, are a challenge to the values based on free exchange, and the final answer has not yet been given. Theories of conservation and compulsory insurance may be grafted upon the stem of marginal utility, but they will not grow there spon-

taneously. They represent clashes of values for which the economist has furnished no adequate common denominator. It is fruitless to claim that these are not economic values but values of some other sort; ethical or what you will. The same is true of the aesthetic value of a picture or the dietetic value of a roast of beef. The test is that the economist must deal with them.

The socialists have a sufficiently clean-cut philosophy covering these vexed questions of reform, and writers like Patten, Veblen, Hobson, and Davenport deal with the fundamental problem, each in his own way. Economists in general cannot afford to become as those who would put new wine in old bottles. There are questions of social interpretation at issue which are real and important. But just for this reason it is peculiarly unfortunate if the discussion runs off upon non-essential matters and is thus side-tracked. Time is worse than wasted which is spent on merely verbal argument, or in disputing the claims of rival concepts which involve a "distinction without a difference," and the excuse for the present excursion into this field is the hope that thereby some of this intellectual waste motion may be saved and real problems be attacked more directly.

It seems to the writer that certain non-essentials have intruded themselves and should be eliminated. One of these is verbal. In the long-standing debate whether value is a quantitative thing or a mere relation, some part of the battle has seemed to hinge on the mere use of the phrase "ratio of exchange." Of those who hold that value is a relation some have called that relation a ratio. And out of this innocent-looking term has grown one of those misunderstandings, those strange failures of mind to connect with mind, which stultify so much good argument.

The discussion in question runs thus: "Our honored opponents claim that value is not a quantitative thing but is a mere ratio. Granted, and granted willingly, for wherever there is a ratio there must be two commensurable quantities, or else no ratio can be struck between them. These quantities are value. Our opponents have disproved their own contention." What shall we say of this reasoning? We may pass it as flawless on one condition: namely, that the man who calls value a ratio is talking about the kind of ratio which has to have as its terms two quantities of something homogeneous, other than mere abstract numbers. Is this condition satisfied, or may we find that one side has used a word in one sense and the other side has read into the same word an essentially different meaning? Let us investigate.

It is not at all necessary, for those who choose to consider value a mere relation, that they call that relation a "ratio." John Stuart Mill was for the most part careful enough to avoid this term; he avoided it even in the passage in which he argued the impossibility of a general rise or fall in values because value was held to be a mere relation of things to each other. Taussig follows Mill's usage, but with a significant addition. "The value of a commodity means in economics its power of commanding other commodities in exchange. It means the rate at which the commodity exchanges for others."¹ Evidently Taussig considers that these expressions are either synonymous or else complementary, indicating but two aspects of the same thing. Indeed, the terms "rate" and "ratio" are sometimes used interchangeably. Usage is tolerant. Jevons, on the other hand, tho "not a courageous terminologist,"² not only defined value as a ratio but stoutly maintained

¹ *Principles of Economics*, p. 115.

² F. A. Fetter, "The Definition of Price," *American Economic Review*, vol. ii, p. 793.

that this was "unquestionably the correct scientific term, and the only term which is strictly and entirely correct."¹ Certain other writers have followed Jevons' example — and by so doing have furnished ammunition to their terminological enemies, of which the enemy has not neglected to make use.

General F. A. Walker, for example, slips momentarily into this terminology: "But a measure, a relation, a ratio, cannot be measured! You do not measure the relation of a mile to a furlong: you express it as 8:1." This argument lays itself open to the reply, which Professor Carver makes, that measuring implies a common quality in the measure and the thing measured and that a ratio between concrete things implies some common attribute of a quantitative sort. "Obviously no such comparison can be made unless the thing used as a unit of measurement also possesses that property of the thing to be measured which is selected as the basis of comparison."² In this Professor Carver is technically correct, for his opponent had introduced the idea of a ratio between two similar quantities: two distances. But Professor Wicker is also within his rights in opposing Professor Carver's general conclusion,³ holding that valuing a horse is a different process from measuring a barn, and — avoiding the fatal phrase with which Walker had so weakened his position.

Similarly Professor B. M. Anderson clearly shows the weakness of this terminology.⁴ "Four gallons of milk exchange for one dollar, or 23.22 grains of gold. The exchange ratio is four to one. . . . Now a quantitative ratio is between commensurable quantities. Gold and

¹ *Theory of Political Economy*, 2d ed., p. 89.

² "The Concept of an Economic Quantity," *Quarterly Journal of Economics*, vol. xxi, p. 427.

³ *Quarterly Journal of Economics*, vol. xxii, p. 645.

⁴ *Social Value*, p. 21.

milk must be, then, commensurable quantities, *i. e.*, must have a common *quality*, present in each in definite quantitative degree. . . . This quality is *value*, . . . the exchange ratio will vary with the extent to which the common quality is present in each of the goods. We can have no quantitative ratios between unlike things. And yet, we must have terms for our ratios." The logic seems conclusive. If the value relation is a ratio this fact implies quantities of something homogeneous, and that homogeneous something becomes very important, so important as to demand an important name. To call it "value" is the obvious conclusion, leaving the term "price" free to express, if desired, the ratios of exchange, monetary and non-monetary, from which the existence of the quantity, "value" was inferred.

But this whole logical structure rests on the fact that the adversaries have used terms which assume the conclusion for which Professor Anderson is fighting. And even this is only true on condition that it can be shown that the word "ratio" is to be taken throughout in one very limited meaning: that of a quotient of two commensurable quantities. But the term is often used loosely, as all terms are in common speech, and this looser usage has even gained the dignity of recognition by dictionaries. Nor need this be regretted; men must use words loosely. If they did not, all literature would be reduced to mathematics and nobody would read it. This looseness does no special harm so long as neither writer nor reader shifts over to the strict usage, and begins drawing conclusions based on one usage from statements based on the other.

To illustrate: a rate of speed, say ten miles an hour, has sometimes been called a ratio.¹ Suppose now some one were to attempt to prove from this that distance

¹ See, for example, Webster's New International Dictionary, 1909.

and time have a common quality, and that an hour has just ten times as much of this quality as a mile has ? Or even that a mile of a given road has a quality in common with an hour of Mr. Kolehmainen's running, and has just one-tenth as much of it ? The answer is severely simple. Ten miles an hour is clearly a rate, but it is not so clear that it is proper to call it a ratio. Certainly it is not a ratio in the sense of a quotient between miles and hours. It can be stated so as to involve a ratio, it is true, but the result only shows how much more than a mere ratio it is. We are talking of a rate of speed such that the number of miles covered is to the number of hours elapsed as the number ten is to the number one. Here we have a pair of ratios, not one, and both are ratios between abstract numbers, as indeed all ratios must be in the strict mathematical sense. We have not divided distance by time: we cannot, any more than we can divide apples by potatoes. We have merely divided one number by another. If we call the whole expression "ten miles an hour" a ratio, we are merely defining "ratio" loosely, not implying any theorems as to the oneness of time and space.

Zeno proves that Achilles cannot move to catch a tortoise. What has he proved ? Simply that Zeno's conception of motion is artificial and false, since he has conceived it as something Achilles cannot do. Man moves, then finds a word to express his action, then frames syllogisms about it. The final appeal is from Zeno to Achilles. And from those who call prices ratios and from those who draw conclusions based on this usage, the final appeal is to facts stripped bare of all that may have been read into them.

Suppose now that Smith gives Brown forty gallons of milk and receives in exchange ten bushels of wheat, or

perhaps a warehouse receipt for 258 grains of standard gold bullion. Milk exchanges for wheat at the rate of four gallons per bushel and for gold at 25 cents per gallon or, as the farmer is quite as likely to say, four gallons for a dollar. The writer contends that these phrases express ratios in just the same sense that "ten miles an hour" does, and in no other — that is, they do not strictly express ratios at all, but rates. A rate tells us that for every unit of one thing so many units of something else may be achieved or obtained; for every hundred dollars of principal five dollars of interest, for every thousand dollars' worth of real estate, eighteen dollars of taxes, for every hour, ten miles, for every dollar, four gallons of milk. The terms of a rate may or may not be commensurable with each other.

Again, cigars may sell for ten cents apiece, three for a quarter, or three dollars and a half for a box of fifty. Strange that there should be three different ratios existing at once between the same two terms! This is super-mathematics with a vengeance. But if we are talking about rates, not ratios, there is no more inconsistency about a "rate" of exchange which varies with quantity than there is about a runner who covers one mile at a faster rate than he could keep up for five times that distance.

Indeed, there are various ways in which, whether it is price or value that one is talking about, "rate" seems a more handy word than "ratio" for the latter term introduces an element of arithmetical unreality which must be explained away, or illustrated away, before the discussion can move on. For example:¹ "When a certain quantity of wealth of one kind is exchanged for a certain quantity of wealth of another kind, we may divide either of the two quantities by the other and

¹ Irving Fisher, *Elementary Principles of Economics*, pp. 13-14.

obtain what is called the *price* of the latter. That is, *the price of wealth of one kind in terms of wealth of another kind is the ratio of exchange between the two, i. e., the ratio of the number of units of the latter to the number of units of the former which will be given in exchange.* Thus, if 200 bushels of wheat are exchanged for 100 ounces of silver, the price of the wheat in terms of silver is $200 \div 100$ or two bushels per ounce. Thus, there are always two prices in any exchange. Practically, however, we usually speak only of one, *viz.*, the price in terms of money, obtained by dividing the number of units of money by the number of units of the article exchanged for that money. It follows that the price of any particular sort of wealth is the amount of money for which a unit of that wealth is exchanged."

Reading this passage in the light of the foregoing, does it not appear that the author is put to much trouble simply because he twice brings in the idea of a mathematical ratio, or quotient, between abstract numbers and then twice has to make clear that he really means something different — a much more complex relationship between quantities of concrete things? As a price, $200 : 100$ by itself means nothing, and $200 \text{ bu.} : 100 \text{ oz.}$ would mean exactly as much. The true ratio here is only an intermediate step in the process of finding the price, and disappears when its function is performed. The process in its painful fulness is as follows: 200 bushels of wheat buy 100 ounces of silver. How many ounces of silver does each bushel buy? In getting the answer, $\frac{1}{2} \text{ oz.}$, we really use, not one ratio, but a proportion of two ratios, one between wheat and wheat, the other between silver and silver, thus: $1 \text{ bu.} : 200 \text{ bu.} :: \frac{1}{2} \text{ oz.} : 100 \text{ oz.}$ Why not say "wheat buys silver at the rate of $\frac{1}{2} \text{ oz. per bu.}$," and then forget that the method of proportion was used to find the answer?

The case is much the same with the briefer statement:¹ "Value is a ratio of exchange between two goods, quantitatively specified." The troublesome word once having been inserted, the statement must at once be qualified in order to show that the ratio is not between the commodities, but between the abstract numbers of the units of measure which each commodity contains.

Now if "ratio" does not really mean ratio, but rate, then all this trouble is needless, and the sources of our terminological discord may be diminished, if ever so little. And besides, we should economize one syllable. Those who hold that value is a relation should be the last to adopt a term which delivers them needlessly into the hand of the doctrinal enemy. And if the enemy, holding that value is a quantitative thing, chooses to define price as a ratio between values, why he has thereby assumed the truth of his conclusion, but not strengthened the evidence in its favor. Indeed, he is in danger of proving too much; of proving that value is not merely a quality but a jelly, and of running foul of the experience common to all men who have ever debated whether or not to buy their cigars by the box.

It would seem that the use of the term "rate" would avoid some embarrassment, ambiguity, and sterile dialectic. To pay for this we should merely incur a slight awkwardness when speaking of things like works of art which are unique; since the expression "rate of exchange" suggests a considerable number of sales.

So much for the matter of terminology. Meanwhile, the question remains unsettled whether value is a mere relation between goods and derived from the fact of

¹ Davenport, *Value and Distribution*, p. 569. In his later book Davenport substitutes the word "relation" for "ratio." *Economics of Enterprise*, p. 236.

exchange, or a quantitative thing which precedes exchange and is merely measured by it. This being the case, it is fortunate that most of the working theory of economics is either price theory or at least can be translated into terms of price. Thus the practical economist, and even the theorist of a pragmatic turn of mind can look on quite contentedly and say, with Sir Lucius, "It's a very pretty quarrel as it stands."

Is it possible that the whole dispute is as unnecessary as the argument about ratios? We think of a bushel of wheat having exchange value before it is sold. But so far as this quality, or relation, to which the sale gives a quantitative measure, is the result of previous sales of other bushels and of the whole state of mind of the people concerned that has grown out of settled habits of exchange, it would hardly seem worth debating which comes first in the social scheme of things. It is much like the question of the relative priority of the chicken and the egg.

If things exchange for each other, that is another way of saying that they are able so to exchange; or rather, to move men to exchange them; they have the capacity or quality or power of entering into this relation. The relation and the quality are but two phases of one fact: whoever states one implies the other.¹ And this means, in a tolerant world, that whoever gives the name "value" to one of these concepts implies the right of any one else to give the same name to the other in his own discussions. The two concepts must behave alike, since one is only known through the other.

¹ Since writing the above, my attention has been called to a discussion of the general question of qualities and relations in F. H. Bradley's *Appearance and Reality*, ch. III, in which he says: "Relation presupposes quality and quality relation. Each can be something neither together with, nor apart from, the other, and the vicious circle in which they turn is not the truth about reality." Moreover, while a relation between A and B implies qualities, the author says nothing of a common quality possessed by both A and B by virtue of which they are related. It is by virtue of being different that A and B can enter into relation with each other. Just so it is by virtue of being different that shoes and money are exchanged for each other, or shoes and bread.

So far, those who call value a quality have accepted it as a quality which is measured by the test of exchange. And so long as this is true, the practical reasoning of one school must be surprisingly like the practical reasoning of the other. Strength is a quality, but if wood-chopping be made the official measure of it, it might as well be a mere relation between working time and woodpiles. In such a case it is not strength or power in general that is being measured, not even muscular strength, but merely power-to-chop-wood. Similarly value may be considered as a quality like strength, and called "social marginal utility" or "power in motivation," but when it is measured no one thinks of using a psychological laboratory for the purpose. The thing really measured is motivation as registered in one particular kind of action, it is not utility in general but the power utility has to produce one kind of effect. The runner may think of his speed as his personal quality and the judge of the races may think of it as a relation between yards and seconds, but to both alike the tape and the stop-watch tell the story of the speed attained in the contest.

Is it possible that some day there will be economists who think of value not only as a quality, but as a quality which may be measured in ways that would conflict with the measure of the exchanges? Perhaps we shall be called on to distinguish between "social value" and "exchange value" as Wieser distinguished between "exchange value" and "natural value." If such a distinction is made, it will furnish a difference that will call loudly for settlement.

J. M. CLARK.

UNIVERSITY OF CHICAGO.

THE CONCEPT OF VALUE FURTHER CONSIDERED

SUMMARY

I. Relation of value concept to causal theory of value, 675. — II. Various roots of relative conception of value: "Relativity of Knowledge," 676. — Geometrical conceptions of relativity; parallel argument for relativity of value, 677. — Doctrine of fixed sum total of values, 680. — Haney's expressions, 681. — Usage in English, French and German, 681. — III. General rise or fall of values, 682. — Can one good alone have value? 683. — Abstract *v.* concrete ratios, 684. — "Rate of exchange" as abstract ratio, 685. — "Rate of exchange" useless for economic analysis: views of J. B. Clark, Böhm-Bawerk, Carver and C. M. Walsh, 685. — IV. Illustrations of need of absolute value concept, 687. — Fisher's "general price level" an indefensible substitute, 688. — Shift in Laughlin's argument, 690. — V. Speed and value as ratios, 691. — The "mathematician's fallacy," 692. — Differences between measurement of speed and measurement of values, 693. — VI. "Rate of exchange" as "*price*," 695. — VII. Different consequences of absolute and relative value concepts in economic analysis, 695. — (1) Value a wider concept than exchange, 695. — Value in sociology and in economics, 696. — Value and exchange in socialistic state, 696. — (2) Value and exchangeability not correlated, 697. — Nor do prices always correctly express values, except in static theory, 698. — Values as *causes* of prices, 698. — Temporal relation of cause and effect, 698. — (3) Prices often partly controlled by non-economic values, 699. — Law, custom, and morals in relation to prices, 699. — Exchange theory of value cannot shirk consideration of these cases, 702. — VIII. (4) "Power in exchange" as equivalent of value, 702. — IX. (5) Schumpeter's use of relative concept as regards land value, 703. — X. Conclusion, 705.

I

IN what follows, I shall regard myself more as Professor Clark's collaborator in a symposium than as his opponent in a debate. At certain points I shall definitely join issue with him, at certain points I shall build upon

his analysis, and I shall try to answer the questions he raises as to the implications of the social value theory. But I shall allow myself a wider range than the topics specifically raised by him, because I do not think that he has included enough considerations to furnish a solution to his problem. I welcome the opportunity which his criticism of some of my doctrine gives to go over the ground again, taking account not only of his views, but also of the views of some other critics.

At the outset, I concur with Professor Clark in the view that it is well to divorce as far as possible the terminological, formal, and logical aspects of the question from the more important questions of causation. This distinction is emphasized in my *Social Value*. I shall give the major part of my attention to arguments drawn from considerations of logic and scientific method, rather than to arguments based on my own general theory of value. That the two problems cannot be entirely divorced, however, is well enough illustrated in Professor Clark's own paper, particularly in the following (p. 672): "We think of a bushel of wheat having exchange value before it is sold. But so far as this quality, or relation, to which the sale gives a quantitative measure, is *the result* [italics mine] of previous sales of other bushels and of the whole state of mind of the people concerned that has grown out of settled habits of exchange, it would hardly seem worth debating which comes first in the social scheme of things. It is much like the question of the relative priority of the chicken and the egg." If I could accept this as a theory of the *causes* governing the value of the bushel of wheat, I might find it easier to concur in Professor Clark's view as to the definition of value. But I do not believe that the passage contains, even in embryo, an adequate theory of the causes governing values.

The history of prices, and the settled habits of exchange, do not seem to me particularly significant elements out of which to construct a theory of value. But my chief concern at present, as Professor Clark's, lies in the formal and logical aspects of the value concept, to which I now turn.

II

The notion of value as relative is Protean. Or perhaps, since old Proteus *was*, somehow, the same individual despite his many forms, it is better to say that many different notions, having different philosophic roots, go by the name of the relative conception of value. One root is the psychological doctrine that feelings can exist in the mind only if in contrast with something else — the contrast being made more fundamental than the feelings contrasted. A single feeling is an impossibility. This doctrine lies at the root of Simmel's theory of relativity, and has been made some use of by Professors Seligman and Pantaleoni. I have dealt with this type of doctrine elsewhere,¹ and for the present shall simply say that I regard the doctrine as psychologically untenable,² and that I do not consider the inference drawn from it with reference to the nature

¹ Social Value, pp. 19-20, n., and ch. 10.

² Cf. William James' criticism of the contention that "*semper idem sentire ac non sentire*" are the same. "'The Relativity of Knowledge,' held in this sense, it may be observed in passing, is one of the oldest of philosophic superstitions. Whatever facts may be cited in its favor are due to the properties of nerve-tissue, which may be exhausted by too prolonged an excitement. . . . But if we physically could get such a feeling that should last eternally unchanged, what atom of logical or psychological argument is there to prove that it would not be felt as long as it lasted, and felt for just what it is, all that time?" The Meaning of Truth, p. 4, n. Cf., also, James' Principles of Psychology, II, pp. 9 ff. Knowledge, I should maintain, is relative only when it is "knowledge-about." "Knowledge of Acquaintance" is absolute, i. e., is a term of the "knowledge-about" relationship. Cf. James' Principles of Psychology, vol. I, pp. 221, 222. Cf., also, Dewey's Studies in Logical Theory, chs. 1-4, esp. ch. 3. I am content to rest my view of the matter on authority here, noting that Bergson's view is essentially the same as that of James and Dewey. (Time and Free Will, *passim*.) All three of these thinkers need *terms* before they can talk about *relations*.

of value a proper inference even if the doctrine were sound.

More commonly the doctrine has its roots in geometrical conceptions. Values are treated like spatial magnitudes, which are measured by comparison with other spatial magnitudes, and the argument for the relativity of values runs on all fours with the argument for the relativity of space.

In a recent brilliant article, the French philosophical physicist, Poincaré,¹ maintains the thesis that if all dimensions were doubled, we should not know it. Houses would be twice as high, but then foot-rules would be twice as long, and all things would remain in the same relation to one another as before. Whence, he concludes, the relation is the all important thing. Absolute distance is a chimaera. Now this notion is subject to the criticism that it confuses existence with knowledge of existence, and confuses quantity with measurement of quantity. Moreover, in its very statement, it assumes absolute distance: it assumes an absolute distance to be doubled. But we do not need these considerations to dispose of the doctrine. The proposition that we should not know that such a change

¹ "The Relativity of Space," *Monist*, April, 1913. "Suppose that in the night all the dimensions of the universe became a thousand times greater; the world will have remained *similar* to itself, giving to the word *similitude* the same meaning as in Euclid, Book VI. Only what was a meter long will measure thenceforth a kilometer, what was a millimeter long will become a meter. The bed whereon I lie and my body itself will be enlarged in the same proportion. When I awake tomorrow morning, what sensation shall I feel in the presence of such an astounding transformation? I shall perceive nothing at all. The most precise measurements will be incapable of revealing to me anything of this immense convulsion, since the measures I use will have varied precisely in the same proportion as the objects I seek to measure. In reality, this convulsion exists only for those who reason as if space were absolute. If I for a moment have reasoned as they do, it is in order the better to bring out that their way of seeing implies contradiction. In fact it would be better to say that space being relative, nothing at all has happened, which is why we have perceived nothing (p. 163)." It will be noticed that Poincaré repudiates at the end of this quotation the assumption that an absolute space has been altered, but it is only by making that assumption that he could even state his argument. And the same assumption recurs at every point in the whole of the article. The very notion of relativity is meaningless and *unstable* except as there are assumed absolute terms for the relations.

had been made, that such a change would make no difference in the relations among things, is true only so long as we confine attention to the purely geometrical qualities of things — to space relations. Introduce any other qualities, and trouble arises. Imagine, *e. g.*, a ball of lead suspended by a wire of lead which is just strong enough to hold it up. Now double all dimensions: the diameter of the lead ball, the diameter of the lead wire, the length of the lead wire, the diameter of the earth — will not the wire snap and the ball fall to the ground? ¹ The doctrine is thus not true when gravitation is added to space relations. Add more complex qualities to the consideration, the varying properties of different substances, the delicate adjustments within the bodies of biological organisms, the complexities of psychological and social phenomena, and the doctrine is reduced to mere trifling. It is a notion with which a geometrician may play, but which has no business in the social sciences.

The parallel argument with reference to values is, of course, that values are known only through prices, exchange relations; that, therefore, if prices should remain constant, but all values be cut in half, or multiplied by two, we should never know it, that therefore the assertion that values have changed in absolute magnitude while prices have remained the same is meaningless. Something of this sort seems to be involved in Professor Clark's argument, as for instance in the passage quoted above, and in the paragraph which

¹ Professor F. C. Becker, of the Department of Philosophy in Western Reserve University, in an article which he has not yet published, has worked out a complete refutation of Poincaré along this line, showing any number of derangements in the existing physical order that a doubling of dimensions would occasion. One such illustration might be drawn from the peculiarity of light waves mentioned by Poincaré himself on p. 164 of his article. Professor W. F. Osgood suggests as an illustration the fact that a flea, if it became as big as an elephant, would find its jumping abilities sadly reduced in proportion, since weight increases in one ratio, and strength of tissue in another, with the increase in dimensions.

follows it, particularly the sentence, "The two concepts must behave alike, since one is *only known* [italics mine] through the other." But the reply is first that existence and knowledge are different things, and that the "relativity of knowledge"¹ does not involve the same relativity in the thing known. And the second answer is that the argument, to be statable, must involve the assumption of absolute values *as changing*. And the third answer is even easier in the case of values than with reference to space, because values do significantly manifest themselves in other ways than in exchange, and are in other relationships than the exchange relationship. If, for example, all economic values should rise markedly, but in the same proportion, then men would give more thought and effort to the accumulation of wealth, and would concern themselves less about religious and other spiritual goods. For, after all, economic values affect the lives of men as well as affecting exchange relations among goods. I shall recur to this point later, in connection with the generalization of the notion of value to include legal, religious, moral, and other non-economic forces of social motivation and control. If one wishes, on the basis of an argument of this kind, to assert the relativity of values, one must broaden the value concept to include these other kinds of value. Economic values alone do not constitute a complete or self-contained system. But the argument would be easily confuted if it sought to develop the impossibility of knowing that a doubling of all kinds of values, non-economic and economic together, had taken place. Because such a doubling would manifest itself, not in a different distribution of men's activities, but in an intensification of all activities, and in greater intensities of consciousness of various

¹ See p. 676, n., *supra*.

kinds. Unless Professor Clark wishes to challenge my contention that the essential function of values lies in their power in motivation, that the function¹ of economic values is to guide and control the economic life of society, I do not see how he can avoid this conclusion. And here, I may indicate, is part of my answer to his analogy between "exchange value" and wood-chopping as the measure of strength (pp. 672, 673): exchange is one of the methods of measuring economic values, and, in a competitive society where there is free enterprise, and the like, it is the chief and most exact method; but it is not the *only* method. We have other tests, as just shown, which, if not ordinarily so exact and easily used, are really much more fundamental.

Another doctrine which goes by the name of the relativity of values rests on the contention that the psychological "energy of valuation"² of an individual or a group is limited to a fixed amount, that therefore a rise in the value of one object must draw a corresponding amount of value from some other object, so that an increase in the aggregate of values is impossible. This notion, however, resembles but superficially the conceptions of relativity so far discussed. Instead of assuming that we know value magnitudes only through value relations, it assumes that we know all about the totality of value-magnitudes directly. And relativity here means, not dependence on exchange relations, but simply that particular values are related to a fixed sum of values as part to whole. With this notion I should have no quarrel on strictly logical grounds, but rather on psychological grounds which I need not here consider, as I have gone over the matter at length elsewhere.³

¹ Social Value, chs. 10-11.

² Vide, Baldwin's Dictionary of Philosophy, s. s. "Worth."

³ Social Value, ch. 16.

A more remarkable formulation has recently come from Professor L. H. Haney,¹ "the relativity of unrelated and independent parts" — the relativity of the unrelated! In contrast with this, Professor Haney sets another phrase, "a social relativity," which is designed to convey his own conception. As I do not know what Professor Haney means by these expressions, I shall not discuss them, but I list them here to illustrate the multiplicity of turns that have been given to this versatile term, and in the hope that some future writer may clear up what I suspect to be a mixing of categories which ought to be "related" in a different way.

Certain writers have sought to rest the case for the relative notion on an arbitrary definition, on the assumption that usage has settled the matter once for all. Among these I might include a critic of my *Social Value*, M. M. Ansiaux, who, writing in French, criticizes my use of English in this particular.² The French "valeur" may well have a closer connection with the relative conception than has been the case with English "value" or German "Wert," but the association is not so universal even in French as to prevent Gabriel Tarde from using "valeur" as an absolute quality and quantity (a quantity being any quality which can mount or descend a scale without ceasing to be the same quality) independent of exchange relations. As

¹ "The Social Point of View in Economics, II," *Quarterly Journal of Economics*, February, 1914, p. 296.

² *Archives Sociologiques de l'Institut Solvay*, Bulletin No. 21, May 25, 1912, pp. 949-955. "Préoccupé de faire de la valeur une notion sociale de premier ordre, Anderson rejette la définition des économistes. La valeur, dit-il, n'est pas une relation, c'est une quantité. Libre à lui, sans doute, de donner au mot un sens nouveau; il semblerait pourtant qu'un adepte de la sociologie dût se montrer moins 'individualiste' et manifester plus de respect pour l'usage reçu et d'ailleurs légitime. Le procédé est tout à fait arbitraire. Que dirait-on d'un naturaliste qui appellerait vertèbres les écailles d'une huître et en conclurait que l'huître est un vertébré, grande vérité méconnue par tous les savants passés et présents ?

"L'innovation d'Anderson est d'autant plus sujette à caution que le verbe *valeur* (et en anglais l'adjectif *worth*) implique une comparaison." (P. 951.)

to usage in English and German, I think no one has a right to dogmatize when Friedrich Wieser, Adam Smith, Ricardo, W. F. Lloyd, J. B. Clark, A. S. Johnson, L. S. Meriam, E. A. Ross, David Kinley, W. A. Scott, T. S. Adams, and W. G. L. Taylor,¹ to mention no others, have explicitly recognized the absolute notion, and have, with greater or less consistency, used the term in that way. That practically all economists have used the absolute notion, when they have got past the chapter on definition, as a necessary tool of thought, I have tried to show in *Social Value*.

III

I turn now to the more usual conceptions of relativity that one meets in current economic literature: "ratio of exchange," "power in exchange," "purchasing power," "*taux d'échange*," "*Tauschfuss*," "*Tauschkraft*." These terms, when used as equivalents of value, are not all identical by any means, but they have in common two corollaries: (1) the doctrine that a general rise or fall of values is impossible, since a rise in the value of good A *means* that B has gone lower in value with reference to A; and (2) the contention that if one piece of wealth existed alone, it could have no value, — that two goods, different in some particular (else no occasion for exchange would exist), must be present before value can be predicated of either of them. As against these doctrines, the absolute value concept would contend,

¹ The index of names in *Social Value* will give references to my discussion of the writers listed. Tarde, G., *Psychologie Économique*, vol. i, pp. 63 ff. Johnson, A. S., "Davenport's Economics and the Present Problems of Theory," *Quarterly Journal of Economics*, May, 1914. See also *Am. Econ. Rev.*, June, 1912, p. 320. Cf. Professor Davenport's discussion of the German use of "Wert," *Value and Distribution*, p. 296. The non-relative meaning is the usual meaning of "Wert," in Professor Davenport's judgment. "Preis" (not confined to money-price) is the more common term for value-relations, in German.

(1) that there can be a general rise or fall in values, with or without a change in exchange relations, and (2) that if only one piece or one kind of wealth existed, it would have value, and that value would function in the control of economic activity. To illustrate the last point, let us assume a society in the tropics where the bread-fruit tree is abundant, the water supply adequate, wants for other goods too slight to induce labor, except that one good, red cloth, can be produced from super-abundant vegetable resources without the use of tools, — no technical appliances being known. Would that red cloth have value? Assuredly. That value would induce economic activity. As that value rose or fell, the activity would increase or decrease. There would be no possibility of measuring the value in exchange, for no motive to exchange would exist. By hypothesis, the labor of the community is valuable only because it can produce the red cloth, and hence no exchange of labor for cloth would occur. The time element might induce men to trade present labor in making cloth for future labor in making cloth, or even present cloth for future labor, but Professor Clark, as a good Austrian, will see in this after all only an exchange of cloth (present) for cloth (future) and so, after all, no measurement of the value of cloth. There could be no variation in the relation between a given day's labor and a specified unit of cloth, since my hypothesis excludes "diminishing returns" from land, and assumes a constant (labor-time) cost. To the labor-time Professor Clark (as an Austrian) will attribute a value reflected from its product. I may simplify my hypothesis by making the cloth non-reproducible. Then the value cannot even be measured by its power to call forth productive activity. It will still function, however, in the care with which the community economizes in the use of the

cloth, in the concern with which the group views the wearing away of the supply, in the measure of resistance which the group might offer to enemies who sought to rob them of it, in their grief if the supply were lost. On either hypothesis, we cannot *measure* the value of the cloth in the usual way, by comparing it with some other economic good (tho exchange is not necessary for even this comparison). But is capacity for precise measurement a *sine quâ non* of existence? Is there a definite distance between the earth and the remotest star in the Milky Way? How much is it? Would the distance be altered if we measured it?

It will be seen from the foregoing, that my objections to the relative conception of value do not rest on the particular term chosen. "Purchasing power" and "ratio of exchange" seem to me alike objectionable. I have indicated this in *Social Value*. I found, however, in the notion of "ratio of exchange" certain special objectionable features, unless a prior absolute value were posited to constitute the terms of the ratio. No ratio is possible between incommensurable quantities. Milk and gold, on the basis of their conventionally measured physical qualities, are not commensurable, or if compared on the basis of weight or bulk, would be related in a different ratio from the exchange ratio which we find. Of course, there is one kind of homogeneity for all things: *everything* may be *counted*, even tho each be numbered in a different unit, and ratios may be made between the abstract numbers which the counting results in. But this gives an abstract ratio merely,¹ which, I contended, is of no use to the economist. I indicated, in the chapter on Jevons and Pareto, that their theories had developed only such abstract ratios, ratios lacking concrete terms, and that Böhm-

¹ *Social Value*, p. 22.

Bawerk, altho seeking something much more concrete, had really found nothing more. Jevons himself had recognized this very explicitly. My contention with reference to this point is not that an abstract mathematical ratio violates the canons of logic, but that, for the economist, it is meaningless; meaningless, that is, till further analysis gives it "economic quantities" for terms. Now Professor Clark appears to meet this by a plea of confession and avoidance. It is not clear to me, however, that he has done more than take the abstract mathematical ratio, rename it "rate," and propose it as the equivalent of value. I grant cheerfully the legitimacy, as a matter of logic, of his notion, but I raise the question, what use can he make of the notion?

Some things he can do with the notion, perhaps, but not many. You cannot add rates of exchange, to get a sum of values. "The questions to be answered are quantitative. . . . Reciprocal comparisons give no sums. . . . Ratios [or rates] of exchange alone afford us no answers to the economist's chief inquiries."¹ Nor, for expressions of this criticism, do I need to confine myself to those who accept fully the absolute notion of value. Professor Carver,² who defines value as "purchasing power" still finds a quantitative notion of some sort necessary. A "rate" would be of no use to him. Böhm-Bawerk criticizes the notions of "ratio of exchange," "Austauschverhaeltnis," and "Tauschfuss" (perhaps correctly identified with Professor Clark's "rate of exchange") by saying that these expressions have a peculiar shade of meaning which makes it impossible to attribute them to goods as quali-

¹ J. B. Clark, "Ultimate Standard of Value," *Yale Review*, 1892, p. 258.

² "Concept of an Economic Quantity," *Quarterly Journal of Economics*, May, 1907.

ties, or to speak of a greater or less magnitude of them.¹ Böhm-Bawerk considers value (his "objective value in exchange") relative, but none the less wishes to treat it as a "Kraft oder Eigenschaft" of goods.² Professor Clark's "rate" lends itself no more than does "ratio" to the notion of money as a "measure of values." Just as it will not serve when one wishes to add items of wealth to get a sum, so it fails when one wishes a sum of value as a distribendum for the theory of distribution. One cannot speak of value as the attribute or quality of wealth, if value be merely a "rate" of exchange. Nor can one speak of a unit of value.³ I shall not elaborate these considerations, drawn from the practical needs of the economist in handling his problems, since I have discussed this matter pretty fully in chapters 2 and 11 of my *Social Value*. I shall, however, give some illustrations of the difficulties arising in the absence of the absolute value concept that have come to my attention since the book was written.

But first, I would raise a further question: if the value of wheat be its rate of exchange, *which* rate is it? Its rate of exchange with iron, or coal, or corn, or hats? Each is a different rate. Will Professor Clark choose among them? Or will he try to average them? How *does* one average rates of exchange?⁴ Or will he confine himself to the rate of exchange with money, and limit value to money prices? Or will he say that a good has as many values as there are other goods on the market?⁵ C. M. Walsh, in his *Measurement of General Exchange Value*, treating value as a quantity rather than a ratio, a

¹ *Grundsätze der Theorie des wirtschaftlichen Güterwerts*, Conrad's Jahrbücher, N. F., vol. xiii, 1896, p. 478, n.

² *Ibid.*, p. 5.

³ Cf. *Am. Econ. Rev.*, Supplement, March, 1913, p. 43.

⁴ See p. 707, n., *infra*.

⁵ This is the strictly logical outcome. It is definitely stated by not a few writers, notably Davenport, *Economics of Enterprise*, p. 243, and Ely, *Outlines of Economics*, 1909 ed., p. 157.

quantity analogous to gravity, attempts to average particular exchange values into a general exchange value, but he would not undertake that for rates of exchange.¹ These questions must be answered before "rate of exchange" can be a very important "core of economic thinking."

IV

In illustration of the difficulties which arise in the absence of the absolute value concept, I wish to call attention to a point in Professor Fisher's *Purchasing Power of Money*. Demand and supply curves, showing the determination of particular prices, in which the quantity of goods of each kind is measured along the horizontal axis, and numbers of dollars are measured along the ordinates, must always assume, (a) a fixed unit for the good in question, and (b) a fixed value of the dollar. With the notion of value as an absolute

¹ Walsh considers values quantitative, and also declares them to be relative. But it would involve a more elaborate discussion than is here desirable to take full account of his doctrines. One chief difference between his views and mine grows out of his philosophy of *quantity*. All quantities are relative for him, and value is no more relative than any other quantity. "That exchange value is a relative quantity is not a peculiarity at all. All quantities are relatively quantitative." (Op. cit., p. 56.) His objection to the term, "absolute," rests upon the assumption that "absolute" must mean "without relation to anything else," and that an absolute must be unvarying. (Ibid., p. 66.) As I do not use the term, absolute, in this way (Social Value, pp. 23-24), it is needless to discuss the matter. And as I am concerned simply with maintaining that value is a quantity like other quantities, I need not, for my purposes, quarrel with a writer who accepts this point, but treats all quantities as relative. I am, moreover, prepared to concede that for certain purposes of mensuration, leaving questions of causation aside, Walsh has developed a very useful concept. Great latitude is permissible in framing concepts when only measurement is involved.

As a matter of causal theory, I object to the strict analogy between gravity and value (Walsh, op. cit., pp. 7-8) on the ground that while the relation of gravity between bodies finds its causes *within* the bodies concerned, the relation of exchange between goods is but a reflection of the more significant relations between the goods and men. It should be pointed out, too, that on the strict analogy between gravity and value, one would get a very different doctrine from the usual doctrine of relative values: e. g., a rise in the value of good A should lead to a rise, and not a fall, in the value of good B exchanged for it, just as an increase in the mass of the earth would lead to an increase in the weight of all objects in its sphere of attraction. Walsh himself does not draw this conclusion. (Cf. his chapter xiii.)

quality and quantity, this is easily managed. The same is true of the notion of cost of production: cost curves have significance only if the unit of cost, the dollar, be assumed unvarying in value.¹ Before the question of any particular price is approached, either from the standpoint of supply and demand, or from the standpoint of cost of production, *money*, and a *fixed value* of money, must be assumed.² Behind all our conventional price theory, rationalizing it and validating it, lies the notion of value, and of a fixed value of the money unit. Professor Fisher sees clearly the need for some such notion in connection with supply and demand and costs.³ But his stock of theoretical concepts includes no absolute value. He seeks to supply the lack by a process that seems to me most extraordinary. He takes an *average* of particular prices, the *general* price level, and exalts it into an independent entity, prior to and master of the particular prices out of which it is derived, of which it is a mere average. The analogy is with the sea level and the waves: "We cannot explain the level of the sea by the height of its individual waves; rather must we explain in part the position of these waves by the general level of the sea."⁴ The emergency is great, but surely the remedy too heroic! An average, an abstraction, a mere mathematical summary! *Ex nihilo nihil fit*, — there cannot be *more* in the average than there is in the particulars.⁵ The absolute

¹ I am not now considering the possibility of other cost concepts than the usual entrepreneur cost notion, and I waive a discussion of the possibility of other demand and supply notions than those commonly presented in the conventional curves.

² Social Value, *passim*, esp. pp. 39 and 48, and ch. 17.

³ *Op. cit.*, pp. 174-177.

⁴ *Ibid.*, p. 177.

⁵ I am glad to find myself in agreement with Professors Laughlin and Kemmerer in holding that this notion of Professor Fisher's is untenable. "The distinction Professor Fisher draws between the prices of individual commodities and the general price level appears to me, as to Professor Laughlin, to be untenable. It is, moreover, contradictory to his general philosophy of money. His index numbers recognise no general price level distinct from individual prices. . . . Professor Fisher's illustration of the ocean

social value of money which my theory offers instead has been objected to as a highly theoretical notion, but it at least purports to be a living, psychological, dynamic thing, with causal efficiency,—not a mathematical average. I know nothing more metaphysical in the history of economic theory than this hypostasis of an average. It is interesting to note that Professor Fisher, in a later article, has recognized and used the absolute value concept,¹ tho in a different connection.²

Assuming value, and particularly a fixed value of money, very many economic problems may be handled by price theory, as distinguished from value theory, and without explicit reference to the value concept. Sums of dollars, of an implicitly assumed fixed value, may give all the "economic quantities" that are needed for

would be more apposite if he called it a lake whose level was continually changing, and if he considered each particular wave as extending to the bottom." Kemmerer, *Papers and Discussions*, 23d Annual Meeting of the American Economic Association, p. 53. At the same time, I agree with Professor Fisher that there must be something more fundamental than the particular prices. This something I find in the absolute value of money.

¹ American Economic Review, December, 1914, pp. 825-827.

² A possible alternative interpretation of Professor Fisher's conception is suggested in two or three sentences in the passage of the Purchasing Power of Money I have been discussing. On p. 175 he makes a distinction between individual prices *relatively to each other* and the price level. But the distinction which he *discusses* in the passage as a whole is between the price level and individual prices *not* considered in relation to each other. Comparison, moreover, with his original enunciation of the notion (*Papers and Discussions*, 23d Annual Meeting of the American Economic Association, pp. 36-37), would serve to justify the interpretation I give, as nothing at all is said there about super-ratios between individual prices. But the internal evidence is even more convincing. Demand and supply, and cost of production, find their problem, not in the relation between the money price of aspirin and the money price of caviar, but in the money price of aspirin or the money price of caviar considered separately. Professor Fisher thus conceives supply and demand in his *Elementary Principles* (p. 260). This interpretation is especially necessary, since Professor Fisher is joining issue with writers who surely use demand and supply and cost of production as means of explaining money prices, and not super-ratios between them. Further, the price level is *not*, on Professor Fisher's own scheme, a factor in determining the relations of the prices of sugar and of wheat *inter se*. With a given price level, wheat might be worth a dollar and sugar nine cents, and the ratio of their money equivalents would be 100:9 with a price level twice as high, wheat would be worth two dollars, and sugar eighteen cents, but the ratio between their money equivalents would be still 100:9. The whole discussion is quite meaningless unless the contrast be between concrete money prices of particular goods, and their average. On either interpretation, moreover, my criticism of the exalting of the average into an entity would stand.

very many problems. This is why "the practical reasoning of one school must be surprisingly like the practical reasoning of the other," as Professor Clark says. It is in the theory of money itself that the absolute value notion becomes most clearly needed, and it is by writers on money that this has been most clearly seen.¹ Writers on money whose definitions of value are of the relative type very commonly more or less unconsciously make use of the absolute notion, and sometimes make a sudden shift from the one notion to the other, when problems seem thereby solved. Professor Laughlin, *e. g.*, in his *Principles of Money*, defines value in relative terms (pp. 4-5). However, he finds the absolute notion necessary for many purposes, and in his chapter on "The True Theory of Prices," makes repeatedly the assumption that the value of gold is constant while the values of other things vary, and even the assumption that the value of gold is constant while the general price level varies, an assumption only possible on the absolute notion. (See especially pp. 352-356, and particularly 355.) On p. 342, discussing the movement of gold from gold-producing to non-mining countries, he avoids an analysis of the actual process by which prices are changed, an analysis which the quantity theorists aim to supply, by saying: "It seems quite unnecessary, then, to go through a subsequent process of comparing the media of exchange with the mass of transactions in order to produce a change in prices, or to find the cause of any alteration of prices. *The modification of value going on antecedently, for causes existing before the actual record of prices on the dial-plate of trade* [absolute value, prior to exchange], was the real price-making process, to which the media of exchange afterwards conform as a matter of course,

¹ Cf. *Social Value*, p. 120, n. 3.

or as a register of events. If the standard falls or rises in value, of course prices rise or fall; *that is what is meant by a fall or rise in the value of the money commodity* [relative value concept] . . . (All italics mine). While agreeing fully with Professor Laughlin that the quantity theory does not offer a satisfactory account, either of the causes or of the *modus operandi* of price changes, I would urge that the matter is not so easily disposed of as this. There is a process, which requires *time*.

It would not be difficult to multiply instances of the unconscious use of the absolute value notion at great length.¹ And the shift to the relative notion, in a more self-conscious moment, occurs not infrequently. The explicit use of the relative concept very frequently is a substitute — not chosen for that reason, of course — for analysis. Owing to the difficulty of carrying in mind in the course of a train of economic analysis all the factors on *both* sides of the price relation, the normal and proper thing is, of course, to abstract from one side, and center attention on the other alone. But this means a study of an absolute value. To apply the results of such an investigation then directly, without correcting for the abstraction, to a final conclusion as to the price relation, *on the ground that value is relative*, is to be guilty of a shift in the meaning of terms in the course of an argument.

V

Professor Clark's analogy of value with rate of speed suggests some interesting points. He recognizes that the ratio is not between time and distance, in the case of speed, but between the abstract arithmetical numbers resulting from the counting of the arbitrary units in

¹ Cf. Johnson's discussion of Davenport's usage, *Quarterly Journal of Economics*, May, 1914, pp. 433-436.

which time and distance (units different of course for the two) happen to be measured. It is not unusual to find in mathematical discussion a definition of speed as a ratio between time and distance, or as the abstract ratio between the arithmetical numbers involved. This is a harmless mathematical convention, a very useful convention, as the mathematician thereby gets a symbol *representing* speed which he can put into equations, and manipulate. The convention is harmless, that is, until the mathematician, particularly the mathematical physicist, comes to using the convention as a premise in arguments about reality, and then it becomes the basis of what Bergson has called "the mathematician's fallacy" — the confusion of *measurement* with *existence*. For the ratio is *not* the speed.¹ One may make innumerable such ratios, but if no *motion* takes place, there is no speed. And doubtless a full analysis of speed would reveal some other essential elements. Speed is an aspect of a concrete process, and the ratio is a still higher abstraction from the speed, adequate not for *description*, but only for *mensuration*. The ratio is a measurement of a reality, not the reality

¹ It is interesting to note that Professor R. B. Perry, speaking from the angle of the neo-realists, would accept the view that rate of exchange is inadequate in the field of value theory, but would find in ratio between time and distance a satisfactory definition of speed. Cf. his *Present Philosophical Tendencies*, pp. 335-336, and 60-62. It is well, therefore, to differentiate the two cases. The argument against relativity is stronger in the field of value theory than in the field of mechanics. On general philosophical grounds, from the angle of pragmatism, I should attack the doctrine in both places. On methodological and psychological grounds in addition, I should attack the doctrine in economics. As to what *methodological* considerations should guide the student of mechanics in framing the working concepts of his science, I have no opinion, and no right to an opinion. My quarrel with the student of mechanics comes when he carries the working concepts of his science into the general field of philosophy, and when he seeks to make of the conventions of his science universal rules of scientific procedure. Cf. Bergson, *Time and Free Will*, *passim*, esp. pp. 117-119. Whichever philosophical view may ultimately prevail as to the nature of velocity, etc., I trust that I have made it clear that many questions must be answered before we are obliged to accept the duty of recasting economics on the model of mechanics. Even if the philosopher should finally decide that the working concepts of mechanics give an adequate ontological account of reality, including the realm of mind, the economist could still claim the privilege of framing working concepts of the sort I propose, for *methodological* reasons.

itself. When something beyond measurement is wanted, *e. g.*, an analysis of causation, then speed must be otherwise defined. That the ratio is not the speed itself is sufficiently clear when one reflects that it is pointless to ask one to measure the ratio; the ratio is the result of measurements; the measurement has been made when the ratio is stated.

The measurement of speed by this method is *unlike* the common method of measuring values. The measurement of speed takes two elements *within one given* speed, and states their relation. Measurement of value is commonly by comparing *two* values, usually in the exchange process in the case of economic values, tho other methods of comparison are possible even there. But we can also measure speeds in the same way, *e. g.*, by watching two men running together. We can ignore the absolute amount of time, and see that one covers twice as much ground as another in a given time, not knowing how long that time is. Or, we can see that one covers a given distance — how great we need not know — in half the time the other does. Or, more crudely, we can construct a scale of speeds, seeing men running, A, first, B, second, C, third, and so on, not knowing either time or distance. Something of this sort is what we commonly do with legal and moral values, — we do not so often get precise quantitative equivalents, *i. e.*, marginal prices, as we do in economic values. We may, of course, construct such scales of economic values, and this may easily happen in a communistic régime. For many kinds of measurements, particularly in the psychological laboratory — and, *par excellence*, in grading examination books — this is the best we can do. Such scales may be made of irregular intervals, but we can, under some conditions, make our measurements no more exact.

It is possible, and indeed not uncommon, in the case of individual values (as distinguished from social values), that is, values contained within a single individual mind, — to get inner measurements like that got from the inner elements in a single speed. We consciously *know* the psychological intensity for what it is — either in equilibrium with some other rival value or not. But it would not be possible to reduce the inner measurement to a ratio so simple as that between time and distance in the case of speed. One gets a total effect, rather than an analytical measurement. An interesting psychological measurement of this kind is suggested as a theoretical possibility by Professor John Dewey's analysis of "pleasurable tone" in feeling into a resultant of the proportions of *three* independent variables, themselves complex. It may be noted, also, that we have a yet simpler method of measuring speed by a sort of direct intuition — which really rests in the effort the eye and body must make in following the moving object.

VI

Professor Clark's proposed "rate of exchange" involves a good deal more standardizing and uniformity in goods than the absolute value notion does. Absolute value may be predicated of uniques as well as of members of a class. The idea of rate, moreover, has no special superiority, I think, in the case where goods sell for one price in quantity, and at a higher price in small amounts. Many writers have treated this case by saying that tho the goods sold in large quantity are physically the same goods as when sold in small quantities, they are really not the same *economic commodities* in the two cases; that there are certain advantages in

the small lot purchase which command a premium, and which, moreover, entail extra cost, so that a different value and a different ratio or rate of exchange is to be expected. I am not convinced even that "rate of exchange" is a good general equivalent of "*price*." For most purposes of the economic analysis, what is wanted is a *sum*, and price as a sum of money paid for a good (with "for a good" kept in the background of the thought in the course of the syllogism) is the most common idea of price one meets in economic writing, if I can trust my general impressions. In "rate of interest" we have a good case of Professor Clark's term, used as equivalent to "price."¹

VII

Professor Clark raises, toward the end of his paper, the fundamental questions as to how far the reasonings of the absolute value theorist, particularly the social value theorist, and the theorist with the relative value concept, will coincide, and as to whether social values are always exactly expressed in market prices. In what follows I wish to make some suggestions on these points. First, economic value is a wider notion than exchange, and value a much wider concept than economic value. Many values do not manifest themselves in exchange. The problems of exchange first forced the attention of thinkers upon the value problem, but to make that an argument for confining the value notion to exchange problems is, it seems to me, not more defensible than the effort to confine the notion of interest to the return for the loan of money. It was, to be sure, in money loans that interest first became conspicuous,

¹ Cf. Fetter, "The Definition of Price," *American Economic Review*, 1912.

and for a long time thinkers confined their discussion to that aspect of the interest phenomenon. Incidentally, these speculations remained as "barren" as Aristotle supposed money to be while the scope of the discussion was thus limited. With the broadening of the concept, the recognition of "implicit interest" and "economic interest," and the further broadening of the notion in the capitalization theory, a rich new field of economic phenomena became revealed. The gains to economic and social theory from following the value concept into its wider implications may not be as fruitful as the widening of the interest concept has been, tho I personally anticipate very important results from it; but at all events one may enter a protest against the effort to limit value to exchange merely because the analysis started there. I shall not now discuss the broadening of the value concept into a general theory of social forces. I have elsewhere discussed the notion (*Social Value*, Pt. IV) and hope to elaborate it in detail later. I think that a fruitful alliance can be made between economics and sociology at this point: economics borrowing from sociology new and wider data, qualitative principles of explanation; sociology borrowing from economics its technique of the marginal analysis. But, within the field of the economic values, I wish to give certain illustrations of the disadvantages of limiting value solely to exchange, and of judging values solely by means of prices.

First, it is clear that most forms of socialism and communism would abolish exchange.¹ Would they also

¹ This perhaps calls for a more exact statement. Exchange, in the sense of the transfer of goods from producer to consumer, must exist wherever there is a division of labor. In this sense, exchange would exist in a monastic community, based on the principle of the purest communism, or in a family. Cf., *Social Value*, p. 24, n. This kind of exchange, however, involves no notion of *quid pro quo*, no notion of *do ut des*, no giving up of a good by one man to another in consideration of the giving in return of another good. But even tho this element might be preserved in some forms of socialism, where

abolish value? Or would values, measured in other ways than by exchange, continue to function in the guidance of social production and consumption? We have, on the wider notion, a useful theoretical tool for discussing socialistic programs — witness Schaeffle's *Quintessence of Socialism*. Further, to the extent that collective activity encroaches on the domain of private enterprise and exchange, we shall have problems for which the strict exchange-value notion will be inadequate — as Professor Clark indeed suggests in his opening paragraph. The capitol building at Washington has economic value, has it not? And yet it cannot be exchanged. An entailed estate cannot be sold, yet has value — a value that may manifest itself, *e. g.*, in the amount of insurance a company would be willing to write upon the buildings on it, or in the care and expense its owner would incur to conserve it. Legal abolition of exchange does not necessarily destroy economic value. A man cannot be sold, but if you kill him in a railroad accident his economic value gets a money measure. Again, value and exchangeability are not necessarily coincident. Certainly many things that have high value, as a farm, have low exchangeability, while a copper cent has high exchangeability. On this fact, Menger has constructed a theory of the origin of money.¹

labor might be exacted as a *sine qua non* of receiving goods from the social stock, with labor-checks used as intermediaries, the notion that values are determined in the *exchanging process* would not be maintained, since the terms of these exchanges would be fixed authoritatively, on the basis of some assumed principle or principles of justice or social expediency. It is my contention that economic values, perhaps by no means represented in these "prices," and having no influence on distribution, would exist and function in such a society, tending to compel a readjustment of the social apportionment of labor and capital among different occupations in production if that apportionment were not in accord with the economic values.

¹ Economic Journal, 1892. It seems necessary to point out this essential lack of correlation between value and exchangeability since Mr. Horace White, in his *Money and Banking* (fifth ed., p. 135), identifies value and exchangeability: "Value is an ideal thing in the same sense that weight is. The former means exchangeability; the latter

Now in this lack of connection between value and exchangeability comes an important difference between the absolute value notion and the relative value notions. Forced sales of land, *e. g.*, lead to prices sometimes which do not correctly express the value of the land. This is not a statement about "normal value" or "just value." I mean simply that the market is caught by surprise, and that social forces which would have led to a much higher price had they had time to operate, were forestalled in the snap judgment. You could not buy that farm from the new owner five minutes later for anything like so low a price as he paid, nor could you buy any similar farm in the neighborhood for so low a price. It is the same sort of thing that happens when a minority in a parliamentary body catches the majority napping. The point is essentially the same as that made by Professor A. S. Johnson, in his recent article¹ on Professor Davenport's *Economics of Enterprise*: the distinction between the timeless, mathematical, static equilibrium and the causal process requiring time. Economic values are, in general, the *causes* of prices. The cause changes *first*, in time, and then the effect follows later. With every change in values, therefore, there is a temporary discrepancy between values and prices. In a highly organized market, this time is usually so short as to be negligible. As most price theory has assumed a highly organized market, the notion of values as completely expressed in prices has seemed natural enough. If the social value theory be content to be a theory of only the highly organized market, it, too, may abstract from this time element. Since it wishes to be more realistic, it recognizes the time ele-

means force of gravity. A dollar is a definite amount of exchangeability." Cf. also Amasa Walker's contention that "exchangeable value" is tautology, equivalent to "exchangeable exchangeability!" *Science of Wealth*, 5th ed., p. 9.

¹ Quarterly Journal of Economics, May, 1914, p. 431.

ment, and a gradation in the time element, depending on the degree to which exchange has been organized, or can be made automatic, in the case of any given class of commodity. Of course many writers, as Böhm-Bawerk, have pointed out that certain prices, as those due to accident or fraud or disguised benevolence, are not "economic prices," and have then gone on to discuss "economic prices" on the assumption of the fluid market with its timeless adjustments. The social value theory, and the absolute value theories in general, do not need to make so sharp a sundering between "economic prices" and non-economic prices, but may recognize a gradation in the degree of control which values have over prices, and in the amount of time which the perfect adjustment requires. The theory of value is essentially a theory of *causation*.

Further, there is often a hiatus between actual price and the price which would correctly express economic value, because the price is controlled, in part or in whole, by a value of a non-economic sort. The price itself may become an object of value, may become conventionalized, made sacred or at least tenacious, by the influence of custom or tradition, or even may be directly prescribed by law. In such cases, it is worth while to make a distinction between two cases: (a) where the economic values tend to *raise* the price but are checked, and (b) where the economic values are checked in their tendency to *lower* the price. In the latter case, adjustment is easy, and prices do correctly express values, in very many cases, because, if the supply of the good in question is dependent on continuous production, the productive factors may be diverted to other employments, and the supply shortened, until the values are brought into harmony with the prices. This would not be possible, of course, where such a shifting is not pos-

sible. A minimum wage law, *e. g.*, would be easier to enforce by far in a single industry than over the whole field. The value of labor might be brought into perfect correspondence with a minimum wage in a given industry; if such a law were enforced over the whole field, some laborers might get a wage exceeding the measure of their value. But this does not mean that such a law could not be enforced. Economists have often spoken of the helplessness of law when in opposition to economic forces, but what we practically get in such a case is a conflict between values which tend to move prices in opposite directions, with a marginal equilibrium between them. I do not wish to go far into the theory of the minimum wage here, and shall illustrate by some simpler cases the control of prices by law or other non-economic values in opposition to economic values. Where, as in case (a), the economic values tend to raise prices, but law seeks to check the tendency, we have had our most strenuous insistence on the powerlessness of law. The English "Statutes of Laborers" have been cited again and again as evidence of the powerlessness of such laws. And yet I think it perfectly certain that these laws were not without effect. They did not perfectly control the price of labor; wages rose more or less steadily during the period of their operation. But it surely cannot be contended that they did not delay the process, that at many points wages were not kept to the statute rate because of the statutes; that, in fact, you had a shifting marginal equilibrium between the social forces in the economic value and the social forces in the law, an equilibrium expressed in the price of labor, and varying as the one force or the other gained or lost in magnitude. A modern case may be suggested. Suppose that railroad freight rates are legally fixed at a point lower than necessary to provide

the facilities for which the shippers of a given region are willing and able to pay, so that competition among shippers would lead to the offering of prices higher than the legal rates if the railroad were free to accept them. Suppose, however, that the regulating authorities have full access to the railroad's books, and have power to punish with imprisonment any deviation from legal rates. Will economic values control prices here? Will there not be a divergence between values and prices? The economic values might lead to higher prices paid, not to the railroad, but to speculators who had chartered cars, if that were feasible. The economic values might function in the bribing of employes to give preference to one shipper over another. But the aggregate amount paid for a given amount of transportation would be much less than would be the case if the values were free to work unobstructed. A similar situation arises in the efforts of theatres to prevent speculation in their tickets, to interfere with the free play of economic values in controlling prices. These efforts are less successful than I have assumed would be the case in the illustration just given, partly because the efforts are often not very sincere, and partly because the moral and legal values supporting such efforts are not strong. In the case, however, of the price of tickets at the Harvard-Yale football game, where a powerful sentiment exists among the students of the Universities as to the impropriety of ticket speculation, and where the fear of being excluded from future privileges of buying tickets is real, the non-economic values resist very powerful economic values, and the price of tickets remains pretty much where it is placed by the athletic authorities. These are cases where exchange-relations do not adequately represent economic values. Would Professor Clark give a different answer? To be consistent he would have to do so.

Many writers on the theory of value have been disposed to put these cases aside as not coming in the purview of a theory of value. Thus J. S. Mill¹ goes so far as to limit his treatment to competitive prices only, holding that no laws are possible otherwise. If the social value theory chose to limit its problem similarly, it would have much easier sailing. It seeks, however, to be more realistic than that. But it may be observed that those who define value in terms of exchange have no right to ignore these cases, for real exchange does take place here. And the relative conception must be, not merely as *narrow* as exchange, but also as *wide* as exchange. The social value theory, putting law, moral forces, and economic values into the same general class, makes it possible to treat these cases by an extension of the marginal analysis, and is not obliged to ignore them, or to put them aside into a category of things which it is bad form to discuss, because there is "no apparent method of bringing this class of facts within the orderly sequences of economic law."¹

VIII

Professor Clark's "power-to-chop-wood" illustration suggests a point with reference to the notion of value as "power in exchange." Power to chop wood, if all the wood be of the same kind, all equally free from knots, if the ax be kept at a given sharpness, and the weather conditions do not change, may be considered adequately measured in the size of the pile of chopped wood, and men's power in this particular — or their strength in general, if this be the only possible mani-

¹ Principles, Bk. III, ch. i, par. 5.

² Davenport, Value and Distribution, p. 560. This passage appears in a different connection, but illustrates the same methodological view-point as that here criticised.

festation of strength — may be safely compared on this pragmatic basis. But the notion of power in exchange is no such simple notion. For a good, say a bushel of wheat, may have power to purchase a hat, or a pig, or a day's labor, or a dollar. Is it the same power in all these cases? How assert this, unless the resistances overcome in each case are in some way equal — unless the various alternative goods named have some common quality with respect to which equality may be asserted? Does not the notion of power in exchange thus require the more fundamental value notion for its validation? The resource, questionable on other grounds, of saying that these various goods are all equal in *power in exchange itself* is not open, if one gets away from the unrealities of the assumption of a fluid market where everything has perfect exchangeability, because a test would show that they are not perfectly interchangeable, that you cannot necessarily trade wheat for pigs, just because you could trade pigs for hats and then hats for wheat. The "want of coincidence in barter," one of the commonplaces in the theory of money, is a fact by no means entirely removed by the use of money, and prevents the possible funding of diverse goods on the basis of "power in exchange" alone. Even if that resource were not thus precluded, it would still be either mere tautology, or else a vicious circle,¹ to use it.

IX

As illustrating what can be done when the relative notion of value is applied with entire consistency, I wish to call attention to a striking point in Professor Schumpeter's novel theory of interest, set forth in his *Theorie der Wirtschaftlichen Entwicklung*. Professor

¹ Cf. *Social Value*, pp. 18-19.

Schumpeter's main thesis is that interest is a phenomenon of economic evolution, that it grows out of business profits, and that it would disappear if evolution ceased. There would be no interest in the "static state." In the static state, the imputation process would lead all values back to the original factors of production, land and labor, leaving no source from which interest could come. He is met with the obstacle, however, that in that case the land would have an infinite value, since if we attribute, undiminished, to the land all the value of all the future services of the land, services which may be expected to continue through unlimited time, even a small rent of a small piece of land would mount to an infinite sum. The capitalization theory would see in the absurdity of this conclusion sufficient evidence that interest would survive, even in Schumpeter's static state, as a factor in the capitalization process, as a *rate of discount* to be applied to the future rents of the land, reducing the otherwise infinite capital value to a finite sum, the limit of an infinite *convergent series*. Not so, Schumpeter answers. The land has neither a finite nor an infinite capital value. The land has no capital value at all! The land is not *exchanged* as a whole, but only the yearly rents are sold. Where no exchange takes place, no value exists. And, in the static state there is no occasion, as a consequence of the static hypothesis, for land to be sold.¹ At the application of the absolute value notion, this whole fabric melts away. Whether or not the situation calls for changes in land ownership by exchange, the land

¹ "Der Boden dagegen wird im normalen Kreislauf des wirtschaftsprozesses nicht veräußert, sondern nur seine Leistungen. Nur deren Werte und nicht die Bodenwerte als solche sind daher Elemente der Wirtschaftspläne. Und die Vorgänge des normalen Kreislaufs können uns nichts über die Wertbildung des Bodens lehren. Nur die Entwicklung schafft den Bodenwert, sie 'kapitalisiert' die Rente, 'mobilisiert' den Boden. In einer Volkswirtschaft ohne Entwicklung würde der Bodenwert als allgemeine volkswirtschaftliche Erscheinung gar nicht existieren." Op. cit., p. 334.

has a capital value, and one which can be calculated by the method of the capitalization theory. That value would manifest itself in the expense which would be incurred to protect land in the Missouri River bottom from being washed away by a shift in the current, if so indecorous a thing as a shifting current could exist in the "static state,"¹ and would also receive a pretty precise test in the amount of capital that could be borrowed (or, if already borrowed in the pre-static state, could be kept as a loan) on the basis of a mortgage on the land. In any case, less precisely measured, it would exist as a psychological attitude of the group toward the land. It would be considered valuable, and not infinitely valuable. Schumpeter's argument is perfectly logical on the basis of the relative concept. Will not this make the capitalization theorists a little more friendly toward the non-relative notion? The capitalization theory has always been presented as part of the general body of static, abstract theory, independent of the notion of economic change.²

X

To summarize: while recognizing and insisting that the formal and logical aspects of value theory must be divorced as far as possible from the question of causal theory, I do not believe that the two aspects can be entirely divorced. My main argument, however, has

¹ To make my illustration of the shifting current meet the most rigorous tests of the most heroic static conception, I shall assume that the current shifts in a hundred year cycle, endangering every piece of land in the river bottom once every hundred years; I shall assume that the cycle is perfectly understood, and that every land-owner knows exactly when, and to what extent, he will be endangered. This leaves nothing to chance or uncertainty or ignorance. The economic life of the community runs smoothly on even keel in a static equilibrium. And yet, once every hundred years, without exchange, the capital value of every piece of land in the river bottom is tested and measured.

² For the sake of record, I wish to express considerable doubt as to the adequacy of the capitalization theory *outside the static state*!

rested in logical and methodological considerations, particularly in connection with the actual use of the value concept in specific economic theories. The cases discussed may be offered, not merely as illustrations of my abstract reasoning, but in part as inductive proof of the doctrine maintained. "The relativity of value" has a number of different meanings, and different philosophic roots: one root is in the false psychological theory that *contrasts* constitute the essence of consciousness; another root is in the geometrical theory of the relativity of space; another root, leading to a different kind of relativity notion, is the idea of a definitely fixed sum total of psychological energy. Some writers seek to rest the case for relativity on a badly made dictionary. Common to most forms of the relative theory of value are the (a) contention that values cannot simultaneously rise or fall, and (b) the contention that if one piece of wealth existed alone, it could have no value. The absolute notion of value denies both these contentions. It finds values manifesting themselves not merely in comparison and exchange with other values, but also, and more fundamentally, in influencing the conduct of men. The relative theory involves the confusion of existence with knowledge of existence, and of quantity with measurement of quantity. Thus "purchasing power" and "ratio of exchange" are alike untenable notions, if treated as ultimate: both need behind them an absolute value to give them *locus standi*. The "ratio" notion, however, because of its more precise mathematical character, makes this need more evident, unless the ratio is to be a ratio between pure, abstract arithmetical numbers, in which case it is of little if any use to the economists — a contention which is made even by those who define value as "purchasing power," notably Carver, Böhm-Bawerk

and Walsh. "Rate of exchange" is no more useful from this angle than "ratio of exchange." "Rate of exchange" affords no homogeneous quality among the diversities of the concrete forms of wealth, present in each in definite quantitative degree, by virtue of which items of wealth may be compared with one another, added to make sums, treated as a distributendum for the imputation analysis, etc. Nor can "rates of exchange" even be averaged.¹ In illustration of the difficulties which lack of the absolute value concept involves, I have cited Professor Fisher's doctrine of the independence and priority of the price level with respect to the particular prices, a device for making good the lack of an absolute concept; and the partly unconscious use, by Professor Laughlin, of the absolute concept, with a shift, in the course of the argument, to the relative notion. It is in the theory of money that the absolute concept, explicitly held, is most necessary, an implicit assumption of a fixed value of money serving adequately for most other purposes of price theory. I have contrasted the measurement of speed with the measurement of values, on the basis of Professor Clark's illustration, pointing out that a fallacy, "the mathematician's fallacy," is involved if either speed or value be *identified* with a rate or ratio. Finally, in answer to the question as to what practical difference is made whether the relative exchange concept, or the conception of value as absolute, prior to exchange, be held, the following points are

¹ The averaging for purposes of index numbers is, not of rates, or ratios, but of one term of the rate or ratio, that, namely, which numbers the units of the single commodity which is being measured by the index number, usually money. The other term is really not representative of a true quantity at all; it is not *apples plus wheat plus shoes*, etc., but *apples and wheat and shoes*, etc., each in definitely stipulated quantity measured in terms of its own unit. If any one of these elements in the "composite commodity" varies, you have not a quantitative variation in a homogeneous sum, but a new composite, incomparable with the old — except that for purposes of practical measurement we may often safely abstract from this theoretical consideration. The *relations* between money and the goods cannot be averaged. The only thing to suggest this possibility is the mathematical *convention* treating ratios like fractions.

submitted. (1) Economic value is a wider concept than exchange, and would hold, *e. g.*, in a socialist economy. Value is a wider concept¹ than economic value. In the value concept is a useful unifying principle for all the social sciences. (2) Value and exchangeability are different notions, and do not vary together. Hence the distinction between two viewpoints, the timeless equilibrium assumed by abstract price theory, and the notion of a causal process in price determination, requiring time, becomes important. Normally, values are the causes of prices, and change first. (3) Many prices are controlled, in greater or less degree, by non-economic values, so that they express, not economic values alone, but a marginal equilibrium between economic and non-economic values. (4) On the basis of Schumpeter's theory of interest, it is suggested that the capitalization theory is bound up with the absolute notion of value, and is harder to defend on the relative notion.

In conclusion, I wish to record my appreciation of the honor Professor Clark does me in discussing my theories, and my admiration for the vigor and clearness with which he maintains a view in which I cannot concur. I have not anywhere read a stronger presentation of the case for the relative notion, nor have I anywhere read an argument from that standpoint which seems to me so sympathetic and catholic in its evaluation of the doctrines it opposes.

B. M. ANDERSON, Jr.

HARVARD UNIVERSITY.

¹ In connection with the social value doctrine, I would especially refer to three very important articles by Professor C. H. Cooley: "Valuation as a Social Process," *Psychological Bulletin*, December, 1912; "Pecuniary Valuation as an Institution," *Am. Jour. of Sociology*, January, 1913; "The Sphere of Pecuniary Valuation," *Ibid.*, September, 1913.

A REJOINDER

SUMMARY

I. Points of agreement, 709. — Need of economic standards independent of price, 710. — The place of inappropriables, 711. — Weighting of individuals in social value, 712. — Conflicts of values, 713. — Values of institutions should be imputed to institutions, not to single commodities, 715. — Marginal method reversed, 715. — Some of the requirements of a social theory of value, 716. — II. Dual nature of Professor Anderson's concept, 716. — Term "rate" avoids a confusion, 717. — III. Doctrine *v.* definition, 718. — Doctrine criticized by Professor Anderson not implied in the mere definition of value, 719. — Examples, 720. — IV. Use of the relative concept, 720. — "Assuming a fixed value of money," and other criticisms, 721. — V. Economic *v.* non-economic, 722. — Values of institutions not to be taken for granted as something supreme and apart from single exchanges, 723. — Conclusion, 723.

I

ONE reason Professor Anderson and I are destined to clash joyously is that our views have so much in common. I feel overpaid in having drawn from him such a searching and stimulating discussion of the general topic of value in exchange for a fragment which aimed rather to promote tolerance in definitions than to establish "an adequate theory of the causes governing values," and least of all to destroy any one's constructive work.¹ At the outset, as his collaborator, let me emphasize one very welcome constructive point of agreement. We are agreed that economists must deal with quantities and qualities of which actual market prices are not the only measure, and, I would add, some of which com-

¹ Hence my surprise when Professor Anderson ascribes to me an assertion of the Austrian theories in opposition to his own. As this is quite foreign to the intent of my paper, it is no wonder that my problem, as *he interprets it*, needs more data for its solution than I have supplied.

mand no market price at all under present conditions;¹ altho with changes in law and custom they might perhaps come to command one. We are agreed that measures of value which may be less exact than those of the market are also much more fundamental.

We are agreed that our most fundamental concepts should be independent of institutions of competitive exchange; they should be such as would hold even in a socialistic state. This is necessary if there is to be any economic meeting-ground for debate between socialists and conservatives. It is necessary if we are to have any standard of judgment on economic reforms which are continually overruling the valuations of the market. It is necessary even in the process of describing the workings of competition under different institutions of property, contract and social control, which we recognize as infinitely varied and ever changing. The competitive product of capital does not mean the same thing in two societies with different institutions of inheritance and bequest, and different laws and customs in the matter of unfair competition. Or, let us take the statement that the rental value of land tends to equal the excess of the (competitive valuation of the) goods and services produced upon it above the (competitive) expenses of production. This becomes quite indefinite the moment we realize that the net product in question may or may not include robbing the neighbors of their light and air, obstructing the streets, fouling streams, increasing or destroying the beauty of the landscape or the business character of the neighborhood, admitting tenants whose very presence destroys the value of other real estate in the same blocks, and so on.² There are as many different kinds of competitive product of land as there are

¹ Cf. J. B. Clark, *Philosophy of Wealth*, pp. 215 ff.

² Cf. Ely, *Property and Contract*, *passim*.

regulations governing these matters, and merely to describe the differences, without passing any sort of judgment on them, we must use terms that go behind the competitive value of the exchangeable product.

The world is full of unpaid costs and unappropriated services. In proportion as we rise above bare material necessities we reach intangible utilities that are harder and harder to appropriate, such as knowledge, civic beauty, or personal privacy. The age of material power is the age when these higher and more elusive utilities come increasingly into the focus of social attention. The age of the railroad and the interlocking credit system is an age when business transactions have more far-reaching effects than ever before, and quite beyond what can ever be bought and sold directly. The age of researches in bacteriology and environmental determinism is an age when innumerable effects, always in existence, are being discovered and valued as never before. The age of democracy is an age when every one can exercise to the full the two great social impulses, — the impulse to be like one's fellows, and the impulse to be different and distinguished. But these emulative and especially these invidious utilities are mostly of such a peculiar character that one man's gain is another's loss: they eat each other up, and the resultant is a social utility far different from the sum of its individually appropriable parts.

The legal doctrine of *damnum absque injuria* covers a multitude of such unpaid costs, and the unearned increment is a great catch-all of unappropriated services. Viewed as a study of individual utilities and not of organic social values, a theory of inappropriables is merely a tracing of such products and costs as law and custom do not yet recognize and a revealing of responsibilities which have not yet been brought home effectively in markets or in courts.

Thus the net economic value of a given service may be considered to include not only the familiar marketable "utilities," but also (1) potentially exchangeable by-products in the way of service or damage, valued at the price they would presumably command in exchange; (2) unmarketables measured by a standard derived from market price.

We may go farther than this, if we are studying such fundamental values as might prevail in a socialist state as well as in our own. Things may be valued by other standards than that of competitive exchange, especially if those other standards are effective in society or may reasonably be expected to become so. Thus the old "rich-man-poor-man complication" may emerge from the thought-tight compartment in which it has been more or less successfully interned, and demand a place in the sun, for there is ample proof that society does not wholly acquiesce in the idea that the desires of rich and poor should have economic weight in proportion to the respective purchasing powers of those classes. This fact is ever coming to the surface where men follow some common policy or when an emergency throws them back on elemental needs.

A ticket to the Yale-Harvard game is cheap enough to be sold for \$2, and too valuable to be bought for \$10, and the principle of this paradox applies to public land under the homestead act and land-rushes in Oklahoma, to bread in Germany, to train accommodations sold to war refugees by a relief committee, to the administration of justice (tho all too imperfectly), to public education. An allied principle governs poor-relief, minimum wage laws, and so on. Enough instances could be easily cited to show the all-pervading economic influence of standards of value contrary to those of the free market. Now unless economics can take and use such standards

in advance of their becoming effective in the market place, it misses by so much its chances to contribute scientifically to economic reform.

Economists do use these standards constantly in their practical thinking on matters of public policy, but somehow the theory of value and distribution seems insulated. If we can develop a concept of social value and valuation independent of market valuations and capable of scientific application to concrete cases, we shall have an intellectual instrument that will pierce the insulation and establish a working connection with the ideas that are making things happen.

It is a substantial gain to regard a price as the resultant of conflicts of many kinds of values, positive and negative, individual and social.¹ But if economics merely accepts and records the outcome as representing the effective social importance of that particular commodity, there is still something lacking. Many a commodity commands a price merely because its negative social value is less than the costs involved in suppressing its use utterly. Whiskey has at once positive and negative social value and motivates prohibitionists to much expenditure of time, effort and money. Yet this negative "power in motivation" has no effect on the price until it actually prevails in a prohibition law. And then, — the price may go higher and not lower,² and the outlawed trade may become more profitable financially than ever before.

The idea of a strong positive value to a minority, in marginal equilibrium with a weak negative value to a majority,³ does not seem adequately to represent the case. Certainly the price does not express any such equilibrium, but only one side of it. Exchange value

¹ Cf. Anderson, *Social Value*, ch. xiii.

² Certainly if quality is considered!

³ Cf. *Social Value*, p. 151.

will remain positive till the negative social value accumulates such overwhelming momentum as to stamp out the trade entirely. What balances the majority's disapproval is not the desire of the minority, but the whole cost of making the majority will effective. There is no marginal equality of effort between policemen and the customers of the "blind tiger." Moreover other values than that of temperance itself may be affected in the attempt to stamp out illicit sales.

The positive value of freedom may deter us from prohibiting the sale of many quack remedies, or outlawing many questionable business practices, which predominant social judgment and sentiment oppose. In all this my view is quite like Professor Anderson's, and I gladly acknowledge indebtedness to his writings.¹

But there is one decided difference, perhaps fundamental. I object strenuously to attributing to a commodity as *that commodity's* social value the whole resultant of these broader forces and values to which it may stand in the relationship of an insignificant or unwelcome by-product, or even in that of a cost of production.² It is the freedom which has social value and not the nostrums or the products of sharp practices which may shelter under its wing. Freedom may be an end in itself like any other utility which affects economic values, and it may also take effect in increasing the output of goods in general. Neither fact can elevate its incidental abuses, recognized as such, to the rank of utilities or values. The net social value of the latter is negative, not positive,³ and I shall never be satisfied

¹ It is hardly necessary to add that I join him in acknowledging our common debt to J. B. Clark's *Philosophy of Wealth*.

² Can this be the way to a more vital connection between economics and sociology?

³ This conception is ethically neutral, accepting the standards in force, and merely insists on distinguishing clearly (as the other concept does not do) to what it is that the accepted standards are attached.

with a theory bearing the name of social value which does not embody this principle so clearly that he who runs may read.

It is so simple! The marvel is that such an obvious statement of fact could be considered to constitute an economic heresy in any school of thought. The distinction may make little difference in static theory, which ignores institutional changes and considers abuses abnormal, but into the dynamic study of the actual world the static hypothesis must not be carried. Here abuses are normal and institutions are active forces campaigning against them, with constant changes of plan and shifts of fortune. Wasteful advertising is waste, not product, tho we may not know how to get rid of it without sacrificing more than we should gain. If static doctrine is to be adapted to deal with dynamic facts, it is at this point, in the concept of value itself, that the modification must begin.

I suspect Professor Davenport of holding exactly this view, with the minor qualification that he throws the whole subject of social value out of the science of economics. Thus it is not wholly facetious to call him the best of social value theorists, for there is no danger of his sanctioning any theory of this kind which is not the real thing. As Mr. Dooley says: "Showin' disrispect f'r th' candydate is wan way iv showin' rispect f'r th' office." Therefore this doctrine of institution-values is proposed, with due trepidation, as the germ of a synthesis, in which Professor Anderson represents thesis and Professor Davenport antithesis. It is also proposed as a necessary premise of dynamic theory.

One further result may be noted. If things may have exchange value when their social value is a minus quantity, can we say of things which have positive social value that the exchange value, actual or normal,

gives a correct measure of their relative social importance? The simplest exchange is not free from these relationships to values outside the market. Each one is a unit in a great social joint product. Thus the theory of social value is anti-marginal in the sense that the part takes its price from the value of the whole and not *vice versa*. In a somewhat similar way railway rates cannot be fixed by the marginal cost of separate services without running the whole road into bankruptcy.

These, then, are some of the elements which must count in a theory of social value. The theory of inappropriables, the conscious social weighing of men and their desires on scales different from that of free exchange, the insistence that institutional valuations and commodity valuations be distinguished and not both attributed to single commodities, and the readiness on occasion to reverse the marginal method of analysis: all have their place in the interpretation. Such studies can be vitally useful, even if they never attain the precision of a yard-stick. Therefore, I am delighted that Professor Anderson also holds that social value varies independently of exchange values, tho I carry the heresy farther than he does.

II

Indeed most of the cases he cites might be classed by an orthodox economist as normal exchange values, distinguished from actual prices, and his own statement of the reason why one of his examples does not fall within this category might itself pass as a definition of the difference between normal and actual price.¹ More-

¹ P. 698, "I mean . . . that social forces which would have led to a much higher price had they had time to operate were forestalled in the snap judgment."

over, I find it hard to understand why a minimum wage law is considered a departure from true social value, tho it clearly represents valuation of the kind which would prevail in a socialistic state. In his concrete examples, Professor Anderson sticks to standards derived from exchange, and hence does not fulfill the expectations raised by his allusions to socialism. This may explain why at one point, after undertaking to contrast value with purchasing power, he contrasts it instead with readiness of exchangeability. The other contrast might have been less clearly marked.

There would seem to be two ideas, not one, here. A social value which varies independently of prices and rests on the facts of social psychology must be a very different entity from any that can be deduced from the idea that price is a ratio between two values, or from the irresistible tendency which writers show to draw from the exchange relation an abstract quality (which is still exchange value). Professor Anderson appears to blend these two concepts, using the evidences of one to support the other, and it is this overworking of the deductions drawn from the exchange relation which I have called in question.

The chief use of the word "rate" is to carry a clearer connotation of what happens when A exchanges for B,¹ free from unnecessary implications that A and B are commensurable. Of course if A and B will both buy C, then we have a ratio of the kind Professor Anderson mentions, with "power-to-buy-C" as the common quality measured.² This is not social value, however richly it may be explained as the result of social forces.

¹ The concept of a rate would need to be stated so as to cover single exchanges; a process no more violent than the adjustment of the idea of an organism when this term is applied to society.

² See A. A. Young, "Some Limitations of the Value Concept," in this Journal, vol. xiv, pp. 418-419.

III

It should be sufficiently evident that I do not want the value concept limited to "rate of exchange" or any other relative notion, nor do I regard such concepts as ultimate nor oppose the use of concepts of social value. But as Professor Anderson remains obdurate toward the "relation" usage, we still have matter for argument. Must the definition of value carry with it elements of doctrine? Professor Anderson maintains that terminological, formal, and logical matters cannot be wholly divorced from questions of *causation*. I should like to distinguish the perception of facts, the grasping of concepts and framing of theorems about them, from the more or less arbitrary process of choosing names to convey these perceptions and concepts. This latter process need involve no disputes over matters of logic or cause, and no questions of doctrine. Even usage, while it affects the wisdom of selecting terms, has, in a scientific discussion, nothing to do with their validity or logical propriety.

This attitude toward definitions spells tolerance, and some may question whether it would not be fatal to uniformity. The exact opposite is the fact, however. Unless we can establish that definitions need carry no doctrinal conclusions men will fight to the last for their individual preferences against the best terminology that could be devised. Until they can tolerate each other's usages they will never tolerate any uniform system. The one man who will surely block the work of any committee on uniformity is the man who knows the one correct usage. Most of what Professor Anderson says against the definition of value as a relation would not apply to this or to any definition as such, unless there be

read into it the doctrine that the exchange relationship is the ultimate economic fact and that there is nothing further underlying it, or the doctrine that the forces underlying exchange relationships are themselves relative things.¹ The first of these doctrines has probably never been seriously maintained; the second can be safely left to psychologists and philosophers. Neither is involved in the act of saying "I choose, in this discussion, when speaking of the ratio (or rate) of exchange between two commodities, to designate it by the word 'value.'" This does not preclude the use of the concept which Professor Anderson prefers; it merely makes necessary the choice of another symbol to denote it. I have never heard of two mathematicians disputing whether the vertex of an isosceles triangle should be called A or B.

As Bertrand Russell laments: "The word *is* is terribly ambiguous."² (He notes five different meanings.) The statement "value *is* a ratio of exchange" may be taken as adopting a meaning for the word "value," or it may be taken as proclaiming certain properties as absolute essentials of the concept "value," wherever and however it may be used. Read in one way the statement is a definition, not logically debatable. Read in the other way it is dogma of a particularly unfruitful sort. This explains my own alleged excursions into the logical and causal aspects of definitions,³ anent the proposition that value is a quantity antecedent to exchange, — a statement which is itself part definition and part doctrine; as a definition it is merely incomplete, as a doctrine it is open to the comment which I made.

¹ Cf. p. 679, "If one wishes, on the basis of an argument of this kind, to assert the relativity of values," etc.

² *The Principles of Mathematics*, Cambridge, 1903, p. 64.

³ Cited by Professor Anderson, p. 675.

Tested by this principle, much of Professor Anderson's criticism is beside the mark. For example, he attributes to his opponents (to whom "value" means a ratio of exchange) an argument that assumes all values cut in half or doubled. What he thinks his adversary might mean by that expression I am at a loss to imagine. Professor Anderson's meaning is evident enough, but if one of the "ratio" school were expressing this idea he would say that "effective utilities" had changed, and would be most surprised if any one suggested that it could happen without his knowledge.

Again, the red cloth would assuredly have economic importance, and Jevons would be the last man to deny it. But must that be called "value" by every one? As Professor Anderson says: "No one has a right to dogmatize." Again, if we christen a measure "value," we do not thereby confuse it with the thing measured, be that thing motivation or utility or something else.

IV

However, if we try to handle a real quality which may be measured in many conflicting ways only one of which we know much about, we are in danger of confusing the real quality¹ with the abstraction derived from our one test.² If we use the abstraction (and Professor Anderson has shown that most of us cannot help using it),³ our terminology should clearly show it as different from the

¹ Ignoring the question of the *Ding an sich*, and whether the "real quality" is more than a composite of capacities to respond to all possible tests.

² Cf. A. A. Young, "Some Limitations of the Value Concept," in this Journal, vol. xxv, pp. 418-419. I have already noted Professor Anderson's blending of the two concepts.

³ Hence the word "price" will not quite fill all the requirements of the various relative concepts of value, if we include the abstract quality, "purchasing power" in that group. In this paper I have deliberately used "social value," "social utility" and "power in motivation" somewhat interchangeably, as over against "exchange value," "price" or "power in exchange," trusting the context to prevent ambiguities.

fundamental quality. Beside this difference, the distinction between "rate," "ratio," or purchasing power is insignificant.

Unless much stress is laid on this distinction between true social value and mere "power-to-buy-C," I fear the concept of social value may lapse into a soporific idea that normal exchange values have been validated in some inscrutable way and can be taken as true measures of the ultimate economic quantity. This would rob the concept of its great dynamic force. Therefore I speak for the right to use both concepts. The limitations of the relative concept then become its chief recommendations, even tho they may not be quite so narrow as Professor Anderson maintains.

Before concluding, certain detailed points may be briefly touched on. In the matter of knowledge *v.* reality, Professor Anderson appears to set up the standards of metaphysics rather than those of science. Shall economics try to be something more than science, when so many still regard it as something less? Within its limitations the relative concept does give useful sums and averages, being no less adequate for this purpose than a sum of imaginary gold coins. Money can be a *common denominator* of rates of exchange. As for assuming a "fixed value of the dollar," this may mean one of two things. In inductive studies it simply means measuring changes of other values *with reference to* the dollar. The timers of a sack-race on shipboard do not necessarily assume the ship to be standing still when they measure the speed of the runners *with reference to* the deck. Astronomers say the sun moves, but use it as a reference point to measure the motions of our system, and can name no ultimate fixed point with reference to which they may measure its absolute motion.

In deductive theory the phrase usually means that the average change in money's purchasing power is zero, measured either in commodities or in some standard of human sacrifice, but it is used with regrettable looseness.

V

The discussion is alive with unsettled questions. The statement that economic values are *sometimes* affected by values of a non-economic sort, legal for example, suggests the reply that if law is a non-economic value so is every "utility"; that all primary values (or utilities) are non-economic, while economic values are of a different grade, not coördinate, for example, with aesthetic or hygienic values. Thus, in dealing with the non-economic utility of an institution which is valued by the public as a whole, we are on the same ground as in dealing with the warmth of a coat or the beauty of a picture; each has its economic aspect and each furnishes its data for economic problems.

Moreover, we cannot be satisfied to take institutions for granted as if they were supreme ends in themselves. If we cannot understand the social value of goods sold under a franchise without reference to the Dartmouth College Case, neither can we understand the social value of the Bill of Rights without reference to its effect on two-cent passenger fares. Even the courts, under the powerful influence of the judicial form of that "instinct of workmanship" which a reading of Professor Veblen's very valuable book tempts one to define as a "bent toward mistaking the means for the end";¹ even the

¹ For this perversion of Veblen's terms I hope to be forgiven, on the ground that it is no worse than those perversions of the instinct itself which form so large a part of his book, and which he shows to be inherent in the nature of the instinct. Cf. *The Instinct of Workmanship*, pp. 29, 31, 34, etc.

courts have not reached the point of regarding the law and the constitution wholly as ends in themselves. The modern tendency is to regard even the more fundamental institutions as means to social ends, and nothing in economic theory can further this tendency more than a constant recognition of the existence of economic gains and costs to society for which such institutions are responsible.

The whole problem of value to society is of course more than economic, but its economic aspect is far from exhausted. The chief thing to be striven for is that this central problem shall have all the light that can be thrown on it from all angles, and that problems of exchange should be treated with this aim constantly in mind.

In summary, the great issue seems to be between standards of value which accept the exchange outcome as measuring the values of the goods exchanged, however they may preface this with studies of the conflicting social forces which are at work, and, on the other hand, standards of value which do not accept that measure as exact or final. Being a heretic on the main point, I tend to minimize distinctions which seem less extreme.

J. M. CLARK.

UNIVERSITY OF CHICAGO.

GERMANY'S FINANCIAL MOBILIZATION

SUMMARY

I. Preliminary measures: banknotes and treasury notes of small denominations authorized in 1906, 724. — The joint stock banks required to publish more frequent statements, 726. — II. The four war measures passed August 4, 728. — The Darlehnskassenscheine, 728. — III. The Reichsbank; redemption of notes discontinued, 732. — Stock of gold increased, chiefly from the internal circulation, 734. — Discounts of treasury bills, 736. — IV. The Darlehnskassen, 737. — V. War Credit Banks, 739. — VI. Foreign exchange, 742. — Appendix I, Issues of Darlehnskassenscheine, 745; II, Reichsbank Statements, July, 1914, to March, 1915, 746.

I

INTRODUCTORY

As a preliminary to the following discussion of the financial measures which Germany resorted to at the outbreak of the war, it will be necessary, in order to obtain a clear understanding of the situation, to review briefly the course of development of German banking policy during the last decade.

The rapid industrial and commercial progress achieved by the Empire almost continuously since the middle of the nineties was naturally followed by severe strain on credit resources which failed to allow for the possibilities of a political crisis. When in 1905, however, the first differences arose between France and Germany over the Morocco affair, the German Government became aware of the dangers of such a heavy strain upon its monetary and credit system, and the problem of a financial mobilization was at once taken

up. The efforts of the responsible officials were probably stimulated by the Reichsbank, whose directors were best in a position to discern the effects of political events upon the money market and who realized that the German currency system rested on a metallic foundation far from strong enough to withstand successfully a great crisis. And apart from these circles, there were many other prominent men able to define their attitude regarding this very important question; they put before the public valuable essays on the subject of financial mobilization.

These facts should be borne in mind in order to understand the course of German banking legislation since 1906 and the banking policy of the German Reichsbank. The first step was to grant the Reichsbank the privilege (Law of February 20, 1906) of issuing banknotes in denominations of M. 50 and M. 20.¹ The purpose of this legislation was admittedly to replace a part of the precious gold in circulation by small bills, or to meet a part of the need for gold coin with the issue of smaller notes; as a result gold would flow in greater amounts into the Reichsbank. On June 5, 1906, another statute was passed according to which the Reichskassenscheine (treasury notes) were to be issued in denominations of M. 10, replacing those of M. 20 and M. 50.²

¹ Heretofore the smallest denomination had been M. 100, as provided for in the Bank Law of March, 1875.

² These treasury notes are the only paper money issued by the German Empire. They were created by a law passed April 30, 1874, when the maximum amount was fixed at M. 120 millions. To increase the imperial war chest of gold, which amounted since 1871 also to M. 120 millions, it was ruled on July 3, 1913, to issue a further 120 millions of Reichskassenscheine. Up to the end of July, 1914, about 85 millions of this new issue had been put into circulation, and the war chest had been accordingly increased; the total amount of gold in the chest (205 millions) was promptly delivered to the Reichsbank for the credit of the Empire at the outbreak of the war. On March 22, 1915, a new bill was passed providing for the issue of a further 120 millions Reichskassenscheine in denominations of M. 10. This new issue, however, is to be entirely covered either by Darlehenskassenscheine or by currency: it is to be with-

In 1908, when the time approached to renew the charter of the Reichsbank, an official inquiry was held with the purpose of disclosing all means and ways to help in the policy of strengthening the German monetary system. The six questions propounded to the authorities finally sifted down to one: how was the position of the Reichsbank to become stronger in the future? This official inquiry resulted directly in the passing of the bank act of June 1, 1909. In Article 3 of this act the notes of the Reichsbank were declared "legal tender"¹ a quality they had not possessed before. By this provision the public was to grow accustomed to considering the Reichsbank notes "as good as gold."

Simultaneously with this legislation, which had in view the strengthening of the Reichsbank, German banking policy was extended to the private joint stock banks. The government fully realized that an improvement in the German credit system could only be achieved by finding a way to induce these institutions to use more restraint and discretion in the granting of new credit. In view of the fact that the country owed its great economic development largely to the stimulating influence of the private stock banks, a destructive legislation against these useful institutions was considered inadvisable. Therefore an attempt was made

drawn later and replaced by Reichsbank notes of the same denominations, the issue of which is already provided for in the same bill.

¹ As the American definitions of "lawful money" and "legal tender" differ from those customary on the Continent, it may be stated that in Europe the term "lawful money" implies the *unit standard*, — either the unit standard coin, or government notes, or banknotes *not* convertible into coin, according to the respective monetary legislation. The term "legal tender" is applied only to such government notes or banknotes as have been declared by law to be instruments of payment, but which are upon demand redeemable in gold. For instance, the notes of the Bank of France and of the Reichsbank, previously "legal tender" notes, became "lawful money" at the outbreak of the European war, when these banks by special legislation were released from their obligation to redeem the notes in specie. The notes of the Bank of England, however, remained legal tender notes, for the bank continued to redeem them in gold.

to influence the banks by other means. This was accomplished in two ways. In the first place the banks were compelled to publish a so-called "Zwischen-Bilanz" (intermediate balance sheet) every two months, instead of once a year as heretofore. The purpose was to subject the banks in their conduct of business more fully to public criticism. The measure was to act as a restraint upon the banks, in view of possible political conflicts. In the second place, the Reichsbank requested all banks to increase their "Giro-Guthaben" (deposits) with it, thus increasing its own working capital as well as the bank's cash reserves.

Owing to this far-sighted policy credit conditions in Germany improved materially. The money which had been borrowed for short terms from foreign countries, particularly from France, was repaid, and the proportion between cash available and short term obligations considerably increased. Such a development was doubtless favored by the slackening of business in Germany after the end of 1912, which would in any case have caused an increase in the banks' cash on hand.

Apart from the improvement in the monetary and credit conditions the German Government also succeeded in enhancing its own resources by adequate tax measures. These measures resulted in the passing of the well-known tax law of June 3, 1913, authorizing what was expressly called an extraordinary "Wehrbeitrag" (contribution for the country's defence). The total yield of this tax had been estimated at approximately M. 1,200 millions, to be collected in three annual instalments. Up to the middle of the year 1914 the receipts had aggregated about M. 300 millions.

II

THE FOUR WAR MEASURES

It will be seen that at the beginning of August, 1914, Germany was in a comparatively favorable monetary situation. But in addition to these precautionary measures, the government, in order to complete the financial mobilization, had carefully prepared a number of bills to be enacted at the outbreak of a war. They were brought before the Reichstag on August 4, and were unanimously accepted in one meeting.

Let it be premised that the coinage act of July 9, 1873, by which Germany had adopted the gold standard, prescribed the acceptance of subsidiary money up to M. 20, of minor coin up to M. 1. The coinage act moreover obliged the Treasury to exchange upon demand any amount of such minor coin for gold. Such provisions could of course not be maintained during a European war, as care had to be taken to prevent an outflow of gold.

The desired results, then, were brought about by the following acts:—

1. (Law 4448.) *Act respecting Notes (Reichskassenscheine and Banknotes)*

The Reichskassenscheine, whose acceptance had heretofore not been compulsory, were proclaimed "lawful money" (see footnote, p. 726). At the same time the Reichsbank notes were made "lawful money," by the provision that the Reichsbank should be released from its obligation to redeem the notes in gold. Consequently the Treasury was freed from the redemption of the outstanding Reichskassenscheine (sections I and II). In

order to protect the private note-issuing banks ¹ against the loss of their gold reserves and to enable them to conduct their business during the war, these banks were allowed to redeem their notes with Reichsbank notes (section III).

2. (Law 4434.) *Amendment of the Coinage Act*

As mentioned above, the German coinage act of 1873 provided that the subsidiary and minor coins should be exchanged for gold upon demand. This provision was accordingly modified to the extent that the imperial Treasury, during the war, should be released from its obligation to exchange these coins for gold, but should be allowed to exchange them for Reichsbank notes and Reichskassenscheine.

3. (Law 4435.) *Amendment of the Bank Law*

The Reichsbank, in accordance with the historical function of a great central bank of issue, had always been regarded as an institution whose very purpose was to serve the country in time of war. In order to accomplish this important task it was necessary to place the Reichsbank in a position to cope with the extraordinary requirements. In section 17 of the Bank Law of March, 1875, it had been provided that the Reichsbank must keep as security against its circulating notes $\frac{1}{2}$ in cash and $\frac{1}{2}$ in short term bills of exchange bearing at least 2 names (double name paper). In order to enable the Reichsbank to grant extensive credits to the Empire this provision was changed. The Reichsbank received the permission to discount Treasury

¹ There still exist four private note-issuing banks in Germany, viz.: The Bayerische Notenbank, the Sächsische Bank, the Badische Bank, and the Württembergische Notenbank.

bills¹ which matured not later than 3 months; and it was provided that the bank should be at liberty to consider, in addition to double name paper, such short term obligations of the empire and Imperial Treasury Bills as security within the meaning of section 17.

This act likewise repealed, for the duration of the war, the well-known provision for a 5 per cent tax upon the uncovered amount of circulating notes (exceeding 550 or 750 millions respectively). The deciding factor for this action probably was the consideration that at a time when the Reichsbank was increasing its note circulation in the interest of the Empire, there could be no reason for a tax tending to restrict note circulation.

4. (Law 4446.) *Act respecting Darlehnskassen*

The acts just mentioned represent amendments of existing legislation in regard to currency and note-issuing banks. The other measures taken for the completion of the financial mobilization had no connection whatever with previous laws enacted in times of peace.

In order to relieve the Reichsbank and the joint stock banks, it was considered essential to create an institution to extend credit against collateral security. For this purpose loan banks (*Darlehnskassen*) were established throughout the country. Such *Darlehnskassen*, as a matter of fact, were not entirely unknown; they had already proved successful in Prussia in the wars and crises of 1848, 1866 and 1870. On the strength of its experiences during these periods, the government, in order to complete the war credit and currency system, again returned to this old and approved organization. The *Darlehnskassen* system was, of course,

¹ Another act (law 4333) expressly authorised the Treasury to issue such Imperial Treasury Bills.

considerably developed, in accordance with the changed conditions of the present day. The leading idea was to strengthen as far as possible the position of the Reichsbank for the financial needs of the government. To accomplish this end, business had to be given an opportunity to satisfy its demands for credit elsewhere. Tho the great joint stock banks would unquestionably have come to the assistance of their clientèle in time of war, it was nevertheless deemed advisable to establish another organization with the sole object of meeting, in case of emergency, the urgent demands for credit. In close coöperation with the branch system of the Reichsbank, the Darlehnskassen were to be established in all cities in which the Reichsbank maintained a branch office and where there appeared to be a need for the facilities.

The Darlehnskassen were started without capital, in lieu of which they issue Darlehnskassenscheine (Loan-Bank notes). The act of August 4, 1914, provided for the issuing of a maximum amount of these Loan-Bank notes of M. 1,500 millions; an amendment to this act (November 11, 1914) increased the amount to M. 3,000 millions. It may be worth while to mention that so far the maximum amount of the Darlehnskassenscheine put in circulation has at no time reached the amount originally provided for, M. 1,500 millions. On December 31, 1914, the circulation totalled M. 1,317 millions, and gradually decreased to M. 760 millions on March 15, 1915. The Darlehnskassenscheine neither became lawful money nor were they declared legal tender. But the Reichsbank was authorized to include them in its legal cash reserves. Thereby it was intended to assure the possibility of extending the Reichsbank's issue power, in case its gold reserve should prove insufficient cover for its note circulation as provided for in section 17 of the fundamental bank law of 1875.

In practice the business of the *Darlehnskassen* is conducted as follows: they obtain banknotes from the Reichsbank against the issue of *Darlehnskassenscheine*, which are fully secured by the accepted security. On the strength of these *Darlehnskassenscheine* the Reichsbank is enabled to put into circulation three times the amount of its own notes.

The denominations of the *Darlehnskassenscheine* were at first M. 5, 10, 20 and 50. Later, notes of M. 1 and M. 2 were issued. While the smaller denominations are mostly in circulation, the larger ones are chiefly held by the Reichsbank. In the weekly statement of March 15, 1915 this institution showed a balance of M. 176 millions of *Darlehnskassenscheine*, from which it may be inferred that of the total issue (at that time M. 760 millions as previously stated) M. 584 millions were in active circulation.

III

THE REICHSBANK

As previously remarked, the Reichsbank for years had heeded closely the possibility of political imbroglios and was accordingly prepared for the outbreak of the war. The course of financial events immediately preceding and following the beginning of hostilities may be briefly described as follows.

During the last days of July, 1914, the public became alarmed and began to exchange Reichsbank notes for gold. The Reichsbank at first satisfied such demands, but very soon restricted itself to paying out only subsidiary coins. After July 31, the bank entirely discontinued redeeming its banknotes, this step probably having already met with the approval of the government. The measures taken by it received full legal

sanction when the Reichstag met on August 4, 1914. The refusal on the part of the Reichsbank to redeem its notes in gold might easily have increased the alarm of the public, had the bank not enlightened the people by using the daily press, and had it not at the same time freely discounted bills of its customers, so that these were not experiencing difficulties in meeting their own obligations. The increase in the amount of bills discounted by M. 1,330 millions during the week from July 23 to July 31 is the best evidence of the far-reaching assistance rendered by the Reichsbank at that period. Further, it granted loans against collateral in a liberal manner, revising for this purpose the list of securities which could be pledged. Whereas in time of peace only imperial issues or those of the several states, municipal bonds, and land-mortgage bonds had been accepted as collateral, the list was extended to include all domestic securities listed on German stock exchanges. At the same time the Reichsbank prepared to open the Darlehnskassen mentioned above. Upon these institutions was to devolve later the task of granting credit against pledge of securities and non-perishable merchandise.

The further development of the financial state of affairs may best be followed up by reference to the weekly statements of the Reichsbank. They are tabulated in Appendix II to the paper, for the period from July 15, 1914 to March 15, 1915. In the first week of August, 1914 the item "Commercial paper and Treasury bills" shows an increase by M. 1,565 millions. According to official information, about M. 750 millions of this amount represent requirements of the government for military payments. As financial and business concerns felt apprehensions regarding the possibility of a sudden discontinuance of credit facili-

ties, they were naturally anxious to secure large credit balances with the Reichsbank. But they were not in immediate need of cash, and the proceeds of discounted bills therefore chiefly remained with the bank, as is shown by the increase in deposits. Since, moreover, the stock of gold was at the same time considerably raised through the imperial war chest,¹ the Reichsbank could meet the enormous demands without permitting the cover for the circulating notes to drop below the minimum proportion of 33½ per cent in cash (gold in bullion and coin, Reichskassenscheine, and Darlehnskassenscheine). Taking into consideration the cover in gold alone, we find that the security in that metal was 37.9 per cent for the period mentioned. The percentage dropped only once below this figure (to 36.7 per cent) on August 22, 1914. After that time the percentage steadily improved, and reached 42.9 per cent on March 15, 1915. This favorable result was brought about mainly by the fact that the Reichsbank could continue to draw gold from circulation and replace it by small banknotes. As stated above, this policy dates back as far as 1906 and has undoubtedly during the last few years been the chief means of increasing the gold stock in the Reichsbank's vaults. The gold reserve amounted on

July 23, 1911 to M.	917.2	millions
" 23, 1912 " "	979.0	"
" 23, 1913 " "	1,156.7	"
" 23, 1914 " "	1,356.8	"

A few days previous to the outbreak of the war the amount of gold on hand dropped as low as M. 1,253.2 millions. But from the beginning of August the stock continually increased, and on March 15, 1915 it rose

¹ See p. 725, note 2.

to the enormous amount of M. 2,300 millions. It is obvious that only by means of such a large increase in the gold reserve could the Reichsbank expand its note circulation without jarring the foundation of the German monetary system.

While it is undoubtedly true that the Reichsbank was enabled to *maintain* its gold reserve by its refusal since August 1st to redeem the notes in gold, the considerable *increase* in its gold reserve could not have been accomplished without the assistance of the entire public. There was no other means by which the gold held by individuals and in circulation could have been concentrated with the Reichsbank. Through the press the public was consistently educated in regard to the exchange of banknotes, and it came to be looked upon as a national duty to deposit the gold with the Reichsbank and receive its notes therefor. Gradually this idea became national and was taken up by all classes of the population. Churches and schools participated in the movement, and this is the only explanation of the fact that the Reichsbank was able to increase its gold reserve since the beginning of the war by more than 1,000 million of marks without importing gold. An opinion regarding this increase in the Reichsbank's gold reserve would have little value, so far as the present is concerned. As regards the future, however, it cannot be overestimated. This large gold reserve will materially facilitate the reestablishment of normal monetary conditions as soon as peace has been restored. Aside from this fact, the willingness of the population to sacrifice precious metal for paper money in hard war times will constitute a unique case in banking and financial history. The psychological explanation is unquestionably the great confidence and trust enjoyed by the Reichsbank ever since its establishment.

Owing to the constant withdrawal of gold from circulation, the banknotes of small denominations (issued in accordance with the act of 1906, as previously explained) were destined to play a particularly important part. On June 30, 1914 the total circulation of small banknotes amounted to M. 651.7 millions; on July 30, 1914 it had already increased to M. 812.6 millions. On March 15, 1915 the total amount of banknotes (large and small denominations) in circulation was M. 4,937 millions, which included not less than M. 2,161 millions small notes (M. 50 and 20) representing about 44 per cent of the total.

The item "Commercial paper and Treasury bills" contained in the Reichsbank's weekly statements clearly reflects the effect brought about by supplying the financial needs of the Empire. Inasmuch as the business concerns had satisfied their credit requirements during the few days preceding the outbreak of war, it stands to reason that they found more funds at their disposal when the situation was cleared than were needed for business. On the other hand, until the first war loan was issued, it was the Reichsbank's paramount obligation to provide the Empire with the funds necessary for conducting the war. As a consequence the item "Commercial paper and Treasury bills" increased constantly, until it reached its highest point on September 30, with M. 4,755.8 millions. According to official information Treasury bills alone amounted at that time to M. 2,300 millions. When the first instalment of the war loan, due on October 5, was paid in, the Treasury took in M. 2,420 millions, which amount was largely applied for the payment of Treasury bills discounted with the Reichsbank. Reference to the bank's weekly statements will substantiate this, for the total of "Commercial paper and Treasury bills" decreased from

M. 4,756 millions on September 30 to M. 2,643 millions on October 7. It is probable that the government contributed at least M. 2,000 millions to this decrease. The amount may have been even larger, because some of the subscribers to the war loan probably discounted bills at the Reichsbank in order to raise the required funds.

The subsequent rise of the item "Commercial paper and Treasury bills" viz. from M. 2,643 millions on November 7, 1914 to M. 4,437 millions on March 15, 1915 was undoubtedly caused by new financial requirements of the Empire. These figures illustrate that the Reichsbank is the center of the entire financial mobilization in Germany.

IV

THE IMPERIAL LOAN BANKS (DARLEHNSKASSEN)

The Darlehnskassen have so far accomplished their object in every way. They have relieved the imperial Reichsbank, and at the same time offered an opportunity, especially to business concerns, of receiving advances on security upon which in ordinary periods money could be raised only with difficulty. Since granting loans on the part of the Darlehnskassen implies automatically an increase in the circulation of Reichsbank notes, as explained above, the loan banks in their desire to prevent a dangerous depreciation of the paper money, grant loans solely in cases where the real value of the security offered is commensurate with the amount applied for. On the other hand, the regulations of the loan banks respecting acceptable security were made very comprehensive. In addition to stocks, bonds, and raw products, "all non-perishable merchandise" is

eligible. But notwithstanding these easier conditions for obtaining credit facilities, full precautions are taken, inasmuch as only marketable goods and merchandise of probably lasting value are accepted. Furthermore, loans are granted only up to 50 per cent or at best up to two-thirds of the appraised value of the security. One must also take into consideration that the borrowers are liable to the Darlehnskassen with their entire property for the repayment of the loans. This explains the fact that the Darlehnskassen as a matter of principle grant loans only to reliable firms or parties deserving credit. The intrinsic value of the Darlehnskassenscheine can therefore hardly be doubted. The precautions dictated by a due regard for the quality of the paper-money resulted in a smaller volume of business for the Darlehnskassen than the authorities may have expected. According to official statements only M. 226.6 millions had been paid out from August 5 to September 23, 1914. For the period from September 23 to October 7, 1914, however, new loans to the amount of M. 850.1 millions were reported. On October 7, 1914, M. 710.4 millions (or 63.7 per cent out of M. 1,115.7 millions) were apportioned to loans granted on subscriptions to the first war loan. At the end of October not more than M. 332.6 millions had been borrowed on other security and on merchandise. On March 15, 1915, the larger part of the loans granted against these subscriptions having been repaid, the total amount of the outstanding loans was only M. 583 millions. These figures do not in themselves evidence a lesser importance of the Darlehnskassen, which became evident again in connection with the financing of the second war loan. The subscriptions to this amounted to M. 9 billions, and some of the subscribers without question called upon the Darlehnskassen for assistance when the various instalments

became due.¹ Under these circumstances the great joint stock banks are considerably relieved, not being obliged to withhold otherwise available credits from the business world.

V

WAR CREDIT BANKS

The perfectly justified precautions taken by the Darlehnskassen in connection with their loans made it necessary, however, to add to the organization for credit facilities during the war another institution. In Germany business to a very large extent is based upon receiving and granting credit. The disturbances in business caused by the war were bound to make themselves felt, especially with concerns which had at their disposal neither sufficient bank credit nor pledgeable security. Their situation was critical in so far as, on the one hand, they had to meet maturing obligations for materials, supplies received, work performed by others, especially wages, as well as the requirements for maintenance of the business; on the other hand they had to reckon with bad debts, cancellation of orders and cessation of regular earnings. The difficulties thus faced by many business houses through no fault of their own could not, of course, all be removed simply by credits granted to them by the Reichsbank, the Darlehnskassen or by private banks. Either the security available was insufficient or the required indorsements

¹ The first instalment of the new war loan became due April 14. There were paid in about 6 billions instead of 3.4 billions as required according to the terms of subscription. To judge from the statement of the Darlehnskassen these institutions may have contributed temporarily about M. 1.2 billions of these 6 billions, for the amount of loans granted by them increased from M. 344.6 to M. 1,573 millions during the week April 7 to April 14. Of the latter amount M. 531 millions were granted against hypothecation of the new war loan warrants. In accordance herewith the amount of Darlehnskassenscheine by the Reichsbank rose from M. 165 millions on March 22 to M. 932 millions on April 15.

of their bills were wanting. Under the circumstances, it was deemed advisable to create an institution of an intermediary character, which would bear the greater share of the risks involved. The so-called War Credit Banks are designed to serve this purpose. They were established throughout the country, have their own capital, and the obligations undertaken by them are guaranteed, and losses, if any, refunded, by the respective municipalities and commercial associations. The War Credit Bank of Greater Berlin, for instance, was established with a capital of 18 millions of marks, of which 25 per cent are fully paid in. In addition thereto, there is a liability of 11.5 million marks by official bodies or commercial organizations.

Inasmuch as the officers of the War Credit Banks are in close touch with local conditions and are known to be extremely careful and scrutinizing in their investigations, the Reichsbank did not hesitate to declare its willingness to discount the bills of these War Credit Banks up to an amount aggregating 3 to 5 times the amount of their capital stock.

Another type of War Credit Bank was established on a coöperative basis, with the special object in view of assisting the German middle classes. The smaller communities were particularly interested in these latter institutions, as they were designed chiefly to assist during the critical periods those whose financial strength was temporarily insufficient to bear the heavy burdens imposed by the war.

The entire organization in Germany, then, for credit facilities during the war may be summarized as follows.

Owing to well planned modifications of the German bank act, the Reichsbank may now be looked upon as a War Credit Bank on a large scale. By releasing the bank from its obligation to redeem its notes in gold,

the government as well as commercial and industrial concerns were enabled to obtain the required credit facilities, and the issue of the first war loan could be postponed until its success was warranted by the condition of the German money market and until private banking institutions had been supplied with sufficient funds to insure the continuance of unimpaired credit facilities for Germany's commerce and industries.

By establishing the Darlehnskassen the German credit system was suitably extended to supply all requirements, and the possibility of investment of the Reichsbank's funds in non-liquid collateral loans was forestalled. As the Reichsbank was further authorized to treat Darlehnskassenscheine as cash security within the meaning of section 17 of the bank act (requiring one-third cash against notes outstanding) the granting of credit facilities by the Darlehnskassen automatically tended to increase and extend the efficiency of the Reichsbank. It is true that the Reichsbank's gold reserve itself has so far been sufficient cover for its note circulation as prescribed by law; this new provision, however, created a second reserve in the event of an unusually large expansion of the Reichsbank's note circulation.

Finally, the financially weaker concerns for whom the stringency of war times would have meant economic ruin are taken care of by Germany's financial mobilization, support being extended to them by the newly organized War Credit Banks.

It is due to this carefully planned and admirable organization that Germany alone of all the countries at war was able to do without a moratorium, thereby preventing a stand-still of her national trade, commerce and industries, and retaining her commercial and economic powers almost unimpaired in spite of the war.

VI

FOREIGN EXCHANGE

The success attending these measures has failed to be appreciated in foreign countries, because of the undue importance ascribed to the rates of foreign exchange. The financial status of a country is customarily judged by the rates prevailing in other countries for its exchange. The unfavorable movement of the German exchange since the outbreak of the war was regarded abroad as a sign of weakness in Germany's financial status. Such an opinion, however, does not pay adequate attention to the various causes of the decline in the German exchange rates in foreign countries. It must be considered that, like all other European countries with an active industrial and commercial life, Germany already had an international "debit" balance of trade in times of peace. During the last five years, the export and import figures compare as follows:—

	<i>(Millions of Marks)</i>				
	1913	1912	1911	1910	1909
Imports	10,770	10,692	9,706	8,934	8,527
Exports	10,097	8,957	8,106	7,475	6,594
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Excess of imports	673	1,735	1,600	1,459	1,933

It will be seen that despite considerably increased export figures in the year 1913, imports still exceeded exports by 673 millions of marks. The fact that German exchange was nevertheless quoted abroad at comparatively favorable rates must be attributed to her *invisible* balance of trade, which, in addition to regular interest and profit earnings out of foreign investments, consisted mainly of the enormous amounts due for

freight, mail and passenger traffic on her mercantile marine. At the outbreak of the war, this very important item of Germany's international trade balance was at once wiped out. Moreover, her exports decreased heavily, while she was still dependent upon foreign nations to furnish raw products and materials necessitated by the war. Thus her indebtedness to foreign nations was constantly increasing. For political reasons, the government could not permit gold exports to any considerable amount, and consequently the rates of foreign exchange are ruling strong in the German market. Despite these facts, however, the balance of trade cannot be looked upon as the sole cause for the important rise in the exchange rates. It may reasonably be assumed that sentiment has influenced the situation to a certain extent. It seems that in neutral countries, and particularly in the United States, which is at present leading in the international money market, the opinion and the belief still prevail that the final outcome of the European war will be in favor of the Allies. This consideration, tho but a psychological one, plays an important part in the fluctuations of the rates of exchange. The situation should not be underestimated, in view of the fact that the credit of a country is judged on the basis of its exchange quotations. If the bankers in the United States were to feel thoroly confident that Germany would be victorious, the low rate for German exchange would certainly induce them to buy German Reichsmarks, which in turn would mean an improvement in the exchange quotations. It is necessary to point out these facts in order to explain the apparent inconsistency between the above description of Germany's financial strength and the opinion thereof entertained abroad. If in foreign countries the judgment of Germany's financial status is a matter of per-

sonal sentiment which only the course of events will rectify, the fact remains that the financial measures here described produced in every respect the desired effect and put the country in a position to bear the burden of the terrible struggle with comparative comfort and ease.

We believe, in conclusion, that, just as the organization of the Reichsbank in time of peace has already for years been considered a model, Germany's financial measures in anticipation of this war and brought about by it will also set a standard for other countries, if events of such weight as Europe is passing through at present should ever occur again.

LUDWIG BENDIX.

APPENDIX

I

STATISTICS ON WAR LOAN BANKS. ISSUES OF

DARLEHNSKASSENSCHHEINE

(In million marks)

		In the Vaults of the Reichsbank	In Circulation	Total Amount Issued
1914				
August	7	about 60	10	about 70
"	15	" 97	13	" 110
"	22	99	31	130
"	31	173	70	243
September	7	" 150	95	" 245
"	15	147	108	255
"	23	143	123	266
"	30	334	144	478
October	7	949	167	1,116
"	15	829	186	1,015
"	23	787	210	947
"	31	865	245	1,110
November	7	859	262	1,121
"	14	758	279	1,037
"	23	594	300	894
"	30	739	324	1,063
December	7	687	345	1,032
"	15	622	368	990
"	23	749	400	1,149
"	31	871	446	1,317
1915				
January	7	541	456	997
"	15	406	461	867
"	23	316	468	784
"	31	259	486	745
February	6	195	505	700
"	15	150	515	665
"	23	180	529	709
"	27	209	550	759
March	7	195	571	766
"	15	176	584	760

II GERMAN REICHSBANK
MAIN ITEMS OF THE WEEKLY STATEMENTS FROM JULY 15, 1914 TO MARCH 15, 1915
(In million marks)

Date	ASSETS					LIABILITIES			
	Coin and Bullion		Reichskassen- and Darlehnkassenscheine	Commerci- al Paper and Treasury Bills	Loans	Securities	Reichsbank-notes in Circulation	Deposits	Ratio Between Gold on Hand, and
	Total	Gold	Total	Darlehns- kassen- scheine			Total	Denomi- nations of 50 and 20 Marks	I. Notes in Circulat'n % II. Liabilities %
July 15	1,669	1,344	59	...	808	347	1,995	581	67.4 46.5
" 23	1,691	1,357	65	...	751	331	1,891	551	71.8 47.8
" 31	1,528	1,253	33	...	2,081	396	2,909	813	43.0 30.0
August 7	1,596	1,478	97	about 60	3,737	194	3,897	1,383	37.9 25.6
" 15	1,590	1,509	127	" 97	4,426	201	3,882	1,451	38.8 23.5
" 22	1,596	1,530	119	100	4,616	209	4,000	1,465	38.2 23.1
" 31	1,607	1,556	183	173	4,750	163	4,235	1,578	36.7 23.3
September 7	1,620	1,580	160	150	4,680	117	4,138	1,584	38.2 24.1
" 15	1,653	1,621	166	147	4,660	90	4,054	1,566	39.9 24.7
" 23	1,704	1,676	149	143	4,712	80	3,993	1,562	41.9 25.0
" 30	1,737	1,716	336	334	4,756	106	4,491	1,780	38.2 25.1

October	7	1,789	1,771	949	945	3,300	43	98	4,199	1,758	1,915	42.9	28.9
"	15	1,825	1,802	833	829	2,975	32	74	4,061	1,742	1,571	44.4	32.0
"	23	1,858	1,828	742	737	2,929	27	82	3,968	1,726	1,555	46.1	33.1
"	31	1,890	1,858	870	866	2,773	36	38	4,171	1,827	1,305	44.6	33.9
November	7	1,922	1,885	859	855	2,643	33	35	4,085	1,821	1,282	46.2	35.1
"	14	1,956	1,916	758	754	2,770	31	33	4,060	1,807	1,357	47.2	35.4
"	23	1,994	1,949	600	595	2,887	35	30	4,009	1,781	1,416	48.6	35.9
"	30	2,036	1,991	743	739	2,932	36	28	4,205	1,870	1,397	47.4	35.5
December	7	2,061	2,019	691	687	3,036	45	26	4,230	1,901	1,485	47.7	35.3
"	15	2,097	2,052	628	622	3,071	64	295	4,275	1,905	1,714	48.0	34.2
"	23	2,117	2,075	754	749	3,656	47	36	4,432	1,968	2,054	46.8	32.0
"	31	2,130	2,093	875	871	3,937	23	34	5,046	2,128	1,757	41.5	30.8
1915													
January	7	2,153	2,112	547	541	3,802	64	31	4,779	2,065	1,630	44.2	32.9
"	15	2,177	2,130	414	406	3,770	39	19	4,592	2,008	1,642	46.4	34.2
"	23	2,197	2,145	324	316	3,720	41	16	4,484	1,968	1,625	47.8	35.1
"	30	2,214	2,164	265	259	3,784	42	16	4,659	2,056	1,453	46.4	35.4
February	6	2,241	2,195	200	194	3,860	42	16	4,672	2,074	1,451	47.0	35.9
"	15	2,276	2,229	154	147	3,862	41	15	4,637	2,028	1,498	48.1	36.3
"	23	2,303	2,254	189	180	4,027	37	16	4,635	2,021	1,724	48.6	35.4
"	27	2,314	2,271	216	209	4,095	43	18	4,863	2,140	1,581	46.7	35.2
March	6	2,335	2,294	204	196	4,261	37	25	4,905	2,166	1,712	46.8	34.7
"	15	2,358	2,316	186	177	4,437	37	57	4,937	2,161	1,896	46.9	33.9

PROMOTION AS THE CAUSE OF CRISES

SUMMARY

Two groups of crisis theories, 748. — Failures the chief phenomena in the crisis, 749. — Promotion activity the cause of prosperity, 750. — Relation between promotion and failures, 752. — Newly-promoted concerns fail, 752. — Old concerns fail because of competition of new, 755. — All kinds fail because of inability to cope with dynamic conditions, 756. — The part of credit in the cycle, 761. — Exhaustion of loanable funds, 761. — Falling reserve ratios or falling reserves, 762. — Gold movements before crises, 763. — Break down of credit not the main cause of crises, 764. — Crisis failures include insolvent as well as solvent concerns, 765. — Promotion the cause of crises, 766.

THEORIES of crises may be divided into two chief groups. One holds that industry is normally in a condition of stable equilibrium and that a crisis is the disturbance of this equilibrium by unpredictable causes. The second maintains that industry is normally unstable and that its equilibrium is eventually ruptured by steadily operating and cumulative forces.¹ This article falls in the second group. It will attempt to show that even when prosperity is not interrupted by extraneous causes such as natural calamities (crop failures, fires, floods, and so on) or by political disturbances, threats of war, and the like, active promotion, the cause of rising prosperity, still sets in operation forces which lead to a financial crisis, tend to check promotion activity, and cause a return to a condition of depression such as characterized the beginning of the period.

It is often said that industrial depression and financial disturbance are but different phases of a given situa-

¹ Jones, *Economic Crises*, ch. I, gives a good discussion of the theories of industrial equilibrium; cf. also Taylor, *Kinetic Theory of Crises*, University of Nebraska Studies, January, 1904.

tion.¹ But just *how* the depression and the financial phenomena are related remains to be satisfactorily explained. It is proposed, as just stated, to show that crisis and depression are the logical sequence of the business activity of the preceding period. Before entering on such an explanation, it is necessary to make clear the essential features of the financial crisis, on the one hand, and of the industrial depression, on the other.

The financial crisis, I maintain, is a situation in which a larger number than usual of debtors are unable to meet their obligations, primarily because industry and finance have failed to yield returns as large as the estimates upon which borrowings or subsequent expenditures were based, and secondarily because of a contraction of credit. Many writers are inclined to lay sole stress upon the failure of firms which suspend because they cannot obtain the customary credit accommodations — a phenomenon here classed as secondary. While such failures are strikingly prominent and very numerous during panic times, it should be recognized that the chief failures are those of genuinely insolvent concerns which have not made good during the preceding period of rising prosperity. In fact, the panic stage is very often precipitated by the failure of a prominent firm or firms. The crisis of 1837 in the United States was preceded by failures in the fall of 1836 of English firms doing business with this country. In 1857 the panic began with the failure of the Ohio Life Insurance and Trust Company. The difficulties of 1873 commenced with the failure of the New York Warehouse and Security Company and the banking house of Kenyon, Cox & Company. In 1884 trouble began with the failure of the brokerage firm of Grant & Ward and the Mercantile National Bank. The failure that

¹ Cf. Taussig, *Principles of Economics*, vol. i, p. 400. Hull, *Industrial Depressions*, however, says there is no relation between the two.

marked the turning point of prosperity in 1893 was that of the Philadelphia and Reading Railroad. In 1907 one of the initial episodes was the failure of the Mercantile National Bank owing to its furtherance of copper enterprises and speculation.

On the industrial side of the crisis cycle the dominant factor is the condition of promotion.¹ If many new enterprises are being started the increased demand for capital goods means heavy orders placed with producers, a greater demand for labor, enlarged profits, increased railway earnings, and so on. The increased demand for capital goods is reinforced by heavier demands for consumption goods, and general rising prosperity is the result. Good times, therefore, are due to the investment of the social savings. If investment slows up all the phenomena of business depression appear. Professor Commons² says that "over-production" is mainly the "under-consumption" of wage earners. But is it not more nearly the case to say that "over-production" is the "under-consumption" of *investors*?

However much writers disagree as to what causes the transition from good times to bad, there is an increasing unanimity of opinion that rising prosperity is due to promotion activity, and depression to a relative inactivity in investment. Taylor brings this out clearly in his chapters on crises in *The Credit System*, as does Mitchell in *Business Cycles*.³ Burton⁴ takes a similar position.

¹ See my article, "Analysis of the Crisis Cycle," in *Journal of Political Economy*, October, 1913.

² *Races and Immigrants*, pp. 156-157.

³ Professor Mitchell and I, each working independently, have reached conclusions regarding crises and the general cyclical movement of business which are in substantial agreement. He recognises this in his book (p. 603). Under date of May 3, 1913, Professor Mitchell wrote me: "From your April article I infer that we have stated the problem in much the same way, applied similar methods of analysis, and reached much the same results. But I think you have discovered several points which have escaped me, and that you will find the interest in your results heightened rather than diminished by the appearance of my book. That surely ought to be the case. If you and I are really working by scientific methods our investigations ought to bring us out at the same conclusions, and that we confirm one another ought to be a matter of interest to those who are taking economic theory with seriousness."

⁴ *Crises and Depressions*, p. 306.

He says that the important feature in the occurrence of crises and periods of depression "is the increasing proportion of expenditures in preparation for increased production, manifesting itself in the formation and prosecution of new enterprises and the building on a large scale of railroads, ships, and factories, and the providing of other means to meet increased demands. At times these expenditures for increased production attain an unusual proportion as compared with the ordinary expenditures for annual consumption or support." Tougan-Baranowsky¹ says: "Pendant les phases de prospérité, on crée le nouveau capital fixe de la société. Toute l'industrie sociale prend une orientation particulière: la fabrication des moyens de production passe au premier plan. La production du fer, des machines, des instruments, des navires, des matériaux de construction devient bien plus considérable qu'auparavant." Two writers of works less scientific than those above cited have come to the same conclusion. Hull² states that "what we call booms result almost entirely from the great periodic increase in the volume of construction, and what we call industrial depressions result almost entirely from the great falling-off in the volume of construction." Johannsen³ says: "An augmentation in the rate of new constructions brings with it an augmentation of the country's business activity; and an increase in this activity, in turn, will increase the demand for new constructions; the one factor constantly invigorating the other. The governing factor, however, and the one that starts this reciprocal action, must be found in enterprise and new constructions."

But what is the relation between promotion, the dominant element in the industrial phase of the crisis

¹ *Les Crises industrielles en Angleterre*, p. 271.

² *Industrial Depressions*, p. 105.

³ *A Neglected Point in Connection with Crises*, p. 7.

cycle, and failures, the essential factor in the financial phase of the cycle ? An answer to this question is necessary before a working theory of crises can be said to be evolved. It is not enough to say that the failures are due to miscalculations in business. That does not explain why there should be more miscalculations at one time than another; nor does it show the relation between the industrial and financial phases of the crisis. The problem put in another form is: to what extent has promotion been a factor in bringing about these extra failures which constitute a crisis ?

Analysis of any crisis situation shows that the two phenomena, promotion and failures, are closely related. Yet the relationship is more complex¹ than writers admit who say that the failures are due merely to over-investment, or improvident investment, or exhaustion of capital, or some one factor. Not one class, but a considerable number of classes of failures directly or indirectly connected with promotion activity may be marked out. I have outlined three of the most important.

First, there are the failures of the newly-promoted concerns because of miscalculations in promotion. Here is found the much-talked-of anarchy of production. Investment is often carried too far in a given line and the market finally becomes overstocked with the particular commodity or service produced by these new concerns. Or, it happens that promotion is premature; as for example in railway building before our crises of

¹ Professor Taussig, *Principles of Economics*, vol. i, pp. 410-411, gives recognition to the complexity of the crisis situation. He says: "In sum, the causes of industrial depression seem to be reducible to various kinds of maladjustment, all connected with the intricate division of labor and the long stretch from production to consumption. There is likely to be maladjustment in the planning of some particular kind of capital, — railways, or electric enterprises, or textile mills. There is likely to be maladjustment in a greater addition to the total community's capital than is justified by the total of its available savings. There is excess or deficiency in the stocks of dealers and middlemen. There is accentuation of the whole series of misfits because of the psychological factor."

earlier date. While the capital is not from the social standpoint wasted, yet if the enterprises in question cannot find or stimulate enough demand for their products or services to meet their obligations they must sooner or later pass into receivers' hands.

The tendency for investment to follow a single line and to keep up until that line is greatly overdone is, I believe, more characteristic of the earlier crises than of the later ones. The era of distinctive railway crises apparently passed away with the crisis of 1884. The promotion activity preceding the European crisis of 1900-01 and the world crisis of 1907 spread out over much broader fields than formerly, resulting in proportionately less overdoing of any particular line. No one kind of investment was conspicuous in either case.

A study of the lines of investment followed in the last twenty or thirty years convinces one that investment manias are still present, but that they are localized and short-lived. Russia has recently had a more pronounced railway mania than any other country except the United States.¹ Germany extended her electric lighting system by leaps and bounds.² The boom in bicycles culminated in 1896, when over £17,000,000 of English capital went to cycle companies, as contrasted with £155,000 two years later. In the United States also a minor bicycle crisis occurred in 1896, as evidenced by the failure of over 5 per cent of all manufacturers and dealers in cycles.³ Another boom occurred in breweries and distilleries when, in 1894-1905 inclusive, over £88,000,000 of English capital was invested in those lines. Of this amount over £54,000,000 was invested during the three years 1896, 1897, and 1898.

¹ Raffalovich, *Le Marché Financier*, 1898-99, p. 435.

² *London Economist*, 1900, p. 1072.

³ *Bradstreet's*, 1897, p. 354.

In fact, in 1898 breweries and distilleries ranked first among English industrial undertakings.¹ In 1902 and 1903 there was a boom in stores and trading companies. In 1905 an unusually large amount of English capital went to build railways in the Americas, especially in Argentina, and in India, China, and Japan. The mania characteristics, however, have been more pronounced in mining investment than in most other lines. In 1895 occurred the boom in South African mining shares. In 1896 the Westralian mining mania reached its height. In a single month — April, 1896 — eighty-one Westralian companies were launched. Between March 1, 1894, and September 30, 1896, no fewer than 731 Westralian gold-mining companies asked British investors to subscribe an aggregate of almost £76,000,000.²

Over-investment or partial over-production, always an inadequate explanation of the great mass of failures which make up a crisis, is surely less prominent than formerly. This relative absence of mania in promotion should be a factor in reducing the severity of crises and may account in part for the short-lived effects of the crisis of 1907. Possibly it was a factor also in prolonging the period of prosperity in the United States from 1897 to 1907, with a slight interruption in 1903, — a period double the average length of good times in the past.

Of course there will always be some miscalculations in investment. Companies are formed to produce new commodities. There is no possible way to anticipate the demand for an unmarketed commodity, no precedents of demand in former years to be followed. Necessarily, they must first prepare the product for market and trust to their ability to stimulate a sufficient

¹ *Journal Royal Statistical Society*, vol. lxi, p. 145.

² Van Oos gives a good account of the boom in "Kangaroos" in *Nineteenth Century*, vol. xl.

demand. It is inevitable, therefore, that losses as well as gains among such companies should be great, that much capital should be wholly or partially wasted. The losses under such circumstances cannot be due to a lack of managerial ability, since the complete avoidance of mistakes in investment would necessitate more than human foresight.¹ For this reason the proposed socialistic oversight of investment, or any other plan, would not avail to protect from many mistakes in promotion.

A second class of failures arises from the competition of the newly-promoted companies with old concerns. The newer companies have the advantage of freely introducing the latest inventions and processes, of locating advantageously with reference to sources of raw materials or to markets and the like. It is by such competition that, as Ely says,² the minimum expenses of production today become the marginal expenses of production tomorrow. This competition works hardship to the old concerns, yet it is by this process that the consumer receives the benefit of changes in the course of progress. A familiar example of the operation of the principle is the construction of houses for hire even after a city has a large number of unrented houses; because the preference of renters will be for the new, modern houses. It will be the owners of the old houses and not the later enterprisers that will suffer from the increased investment in rental properties.

Competition of new concerns with the established concerns also involves more than stated above. Not only is there competition between such allied lines as electricity and gas, cycles and automobiles, phonographs and pianolas, but between automobiles and

¹ Jones says that the existence of improperly used capital indicates a lack of managerial ability, but that generalization seems too broad. It would not be applicable in this case.

² *Outlines of Economics*, p. 174.

furniture, phonographs and sewing machines, and so on. The organization and operation of new companies involves not only the stimulation of demand for more commodities but, whenever possible, the withdrawal of demand from old lines to new. There is a limit to the amount of goods the consumer can procure; if he buys commodities of one kind, it cuts down his ability to purchase commodities of other sorts.¹ The placing of new or additional commodities on the market undoubtedly changes the currents of demand and it is beyond human powers to foresee those changes — hence miscalculations.

In the third class of failures are those of concerns which have been unable to cope with the rapid changes in the cost of production and operation so characteristic of a prosperity period. The producer has to reckon not only with rapid changes in demand. Even when demand is sustained or increasing, unforeseen changes in cost of production often result in fatal miscalculations. In the first place, the increased demand for capital goods to equip the new concerns upsets completely the old price schedules, since it means heavy demands for some commodities, such as coal and iron, and little or no increased demand for other less generalized commodities that do not enter so largely into schemes of promotion.² It is true that prices are normally dynamic; yet during a period of active

¹ Cf. Patten, *The Theory of Prosperity*. He maintains that the downward tendency of prices is due, not to the competition of producers, but to the power of substitution possessed by consumers. If the newly produced commodities satisfy more intense wants than the old, demand is transferred from the old to the new. See pp. 70, 71.

² It is a matter of great importance to business, not that promotion activity through credit expansion causes prices to rise, but that it causes such unequal rises. This disturbance in the field of production is a more important feature of rising prices, I believe, than is the changed relation between debtor and creditor given so much attention by Professor Fisher and others. Compare also A. S. Johnson, *Introductory Economics*, p. 225: "The business relations most seriously disturbed by price changes, however, are those of creditor and debtor."

promotion price fluctuations are greatly accentuated.¹ Table I gives the rise of prices for different groups of commodities for a succession of prosperity periods. Not only is the *amount* of rise significant, but the difference in rise between different groups and between the same group of commodities in the several periods is striking.

TABLE I:

RISE IN PRICES OF GROUPS OF COMMODITIES IN THE UNITED STATES BEFORE A CRISIS (IN PERCENTAGES)

Before the Crisis of	Food	Cloths and Clothing	Fuel and Lighting	Metals and Implements	Lumber and Building Materials	Drugs and Chemicals	House Furnishing Goods	Miscellaneous	All commodities
1848	19.4	1.1	100.2	16.2	5.0	3.5	21.6	13.1	5.0
1857	48.6	28.9	35.2	10.0	17.4	26.2	25.7	20.9	14.7
1873	28.9	23.6	11.1	13.1	25.1	5.9	13.0	13.4	12.1
1884	21.7	14.7	24.5	9.0	21.2	1.9	4.2	15.0	11.9
1893	13.4	.4	10.6	2.7	1.5	6.2	5.6	7.3	2.5
1903	38.1	17.0	59.2	57.5	31.4	31.6	31.3	25.2	26.4
1907	10.0	18.9	4.8	30.9	21.0	8.3	8.6	13.8	14.6

The increased demand for goods to further promotion and for consumption means also an increased demand for labor, and hence an upsetting of old wage scales. It is true that general wages do not rise more rapidly than

¹ Contracts for production are greatly disturbed by these rapid changes in price. Hull, op. cit., pp. 118-119, says: "We have known of iron-furnaces and steel-works which were not in operation when the boom commenced, and in consequence made no contracts during the low-priced period, but after prices had advanced largely these plants were put into operation, consequently made all their contracts at the high prices, and were thus enabled to reap large profits. On the other hand, we have known of other concerns that contracted all they could make for more than a year ahead at the low prices, and, before they were able to fill these orders, the advance in labor and raw materials so enhanced the cost of manufacture that the boom brought them out with a loss. For this reason, the profits of the producers of construction materials during a boom are, as a rule, very disappointing."

² Computed from the Bureau of Labor's Relative Wholesale Prices of Commodities. The figures represent not the average yearly rise, but the *difference* between the lowest and highest prices of the period.

prices. Much has been written regarding the inertia of wages. Professor Commons even evolves a crisis theory from the wage situation. He says that immigration and the tariff together prevent wages from rising as rapidly as the prices of commodities; thus profits expand. The enormous increase in profits stimulates production until over-production results, and so on.¹ But the individual producer is not concerned with *general* wages any more than with *general* prices. He is interested only in the rate of wages he himself is obliged to pay. While the wages of some kinds of labor rise slowly, the wages of other kinds of labor rise rapidly — even more rapidly than do prices. The result is that many employers of labor find it increasingly difficult to secure the necessary wages fund.

According to the United States Bureau of Labor full-time weekly earnings from 1900 to 1907 advanced 17.6 per cent; and prices during the same period rose 17.2 per cent, or practically to the same extent as wages. But when wage changes in *particular* industries are examined,² it is found that the rise in hourly wages for the same period, 1900–1907, varied from 6 per cent to 44 per cent. Out of the 41 industries given, 28 show a higher rise than the general average of 17.6 per cent, and 13 fall below the general average. Within particular industries even wider wage fluctuations occur. For example, in a typical New England cotton mill the extreme variations in wages in 1910 as compared with 1898 were, on the one hand, a falling off of 18 per cent in the hourly earnings of oilers in the spinning department, and, on the other hand, an increase of 66 per cent in the wages of spoolers. The rapidly changing wage scales in every line undoubtedly is a very important

¹ *Races and Immigrants*, pp. 156–157.

² *Investigation of Wages and Prices*, vol. i, p. 53, in *Senate Documents*, vol. 63.

factor in producing the miscalculations which occur during the periods of business activity.¹

Another element in the cost of production — the rate of interest — is also subject to extreme fluctuations. Promotion activity calls for heavy loans to finance the new companies, and the resulting increase in production requires a corresponding increase in commercial loans. Active speculation during the period of prosperity is also an important factor in increasing the demand for loans. The outcome is that interest rates are much higher during a period of active investment than when promotion is relatively inactive. For example, putting it on an index number basis, the average yearly rate of the Bank of England was 127 during the three periods of active promotion outlined in Table II, as compared with 100 during the three periods when promotion had declined.

TABLE II
DISCOUNT RATE OF THE BANK OF ENGLAND

Period	Average Yearly Rate ²	Condition of Promotion ³
1872-74	4.78	Active
1875-79	3.36	Inactive
1880-82	3.80	Active
1883-87	3.08	Inactive
1888-90	3.80	Active
1891-95	2.65	Inactive

¹ Mitchell in his excellent book, *Business Cycles*, discusses also the deterioration of the quality of labor. In the industries that find it necessary to work their employes overtime, fatigue lessens the efficiency of the laborers. The pressure of orders also makes the employer willing to add to the labor force any help that may be available even altho the efficiency of such help may be far below the average. "Where humanitarian motives are not allowed to interfere with business policy, the less efficient employes are the first to be discharged after a crisis. Hence the relatively small working forces of depression are the picked troops of the industrial army. When a revival has grown into full prosperity, on the contrary, employers are constrained to accept any help to be had. They must take on men who are too old, and boys who are too young, men of irregular habits, men prone to malingering, even the chronic 'trouble makers.' Raw recruits of all sorts must be enlisted and trained in a hurry at the employer's expense. A deterioration in the average efficiency of the working forces inevitably follows" (p. 477).

² Computed from figures given by De Greef, *Le Crédit Commercial et la Banque Nationale de Belgique*, pp. 405-406.

³ Evidenced by the applications for capital in the London market.

The total effect of promotion activity is, therefore, to cause rapid changes in particular prices, in particular wages, and in rates of interest. For this reason all industries, new and old alike, are placed upon an increasingly speculative basis. It is inevitable that many should fail; not merely because of a lack of business ability, altho, of course, the incompetent are rapidly weeded out, but because of the general upheaval in costs of production produced by promotion. Most writers on crisis subjects direct all their attention to the *nature* of investment. They overlook altogether the great disturbance of the industrial equilibrium from the *process* of investment. So important is the latter factor, I hold, that if all investment should be judiciously made, and if it turned out ultimately that there had been no wasting of capital or overcrowding of particular industries, crises nevertheless would not be eliminated.

To the three major causes of industrial disturbance described above — miscalculations in investment, increased competition from the newly organized concerns, and the disturbance to industry resulting from the rapid and unequal changes in costs of production and operation — might be added a considerable number of other factors of lesser importance, which play a part in producing the extra failures in business which constitute a crisis. Among these are speculation on the exchanges, and in land, the general laxity of business methods and morals characteristic of a period of prolonged prosperity, extravagance, lack of adequate capital, and so on. But it is not necessary for the present purpose to enter into these. All the above-mentioned phenomena together account for the fact that as time passes, there is an increasing number of enterprisers who find that their profits are dwindling, and the number of firms failing becomes larger than usual, altho the

majority, up to the very time that the extra failures begin, may still be enjoying great prosperity. As the difficulties of the minority increase, confidence in the future, which is necessary to maintain investment activity, is gradually undermined and investment slows up. With the stoppage of investment the demand for promotion commodities falls off sharply, distrust of the future becomes widespread, the demand for all commodities decreases and depression in business becomes general. This is the typical transition from prosperity to depression.

What part does credit play in the cycle? It is affected by prosperity in various ways.

In the first place, investment tends to exhaust the loanable funds of a country. Perhaps it would be more accurate to say that investment and the speculation which accompanies promotion together tend to exhaust a country's loan fund. As the prosperity period advances, an increasing proportion of the available funds is devoted to speculative purposes, so that new enterprises find it increasingly difficult to secure loans and even established business complains of the difficulty in securing legitimate credit accommodations. The expanded condition of bank loans is evidenced by the falling ratio of reserves to deposits, since deposits originate chiefly from loans. Almost every crisis is preceded by a fall in the reserve ratio.

Central banks often find themselves confronted not only by a falling reserve ratio but also by an actual decline in cash holdings. Increased business activity a country over requires larger cash holdings by the country banks for reserve purposes and increases the demand for currency in convenient form. These demands are met by a lowering of the reserves of the banks in the financial centers.

It often happens that the total reserves of a particular country are depleted by the exportation of gold. Promotion activity and general prosperity play a part in this exportation because they increase enormously the demand for goods thus creating through the expansion of credit a relatively high price level. High prices in turn encourage imports and discourage exports and help to create an unfavorable exchange. The country with the relatively high price level loses its gold. These conditions are illustrated in Tables III and IV.

TABLE III
DATES OF LOW RESERVES AND OF LOW RESERVE RATIOS
BEFORE CRISES

BANK OF ENGLAND ¹			ALL COMMERCIAL BANKS OF THE UNITED STATES ²		
Dates of			Dates of		
Crisis	Low Reserve	Low Reserve Ratio	Crisis	Low Reserve	Low Reserve Ratio
1847	1846	1845 and 1846			
1857	1856	1856			
1866	1864 and 1865	1864 and 1865			
1873	1872	1872			
1883	1881 and 1882	1880, 1881, and 1882	1884	1882	1881, 1882, and 1883
1890	1888 and 1889	1888 and 1889	1893	1890 and 1891	1890 and 1891
1900	1898 and 1899	1898 and 1899	1903	Larger	1899-1902
1907	1906	1906	1907	Larger	1905 and 1906

¹ Compiled from Statistics for Great Britain, Germany, and France, pp. 82, 83, prepared by the National Monetary Commission.

² Compiled from Andrews' Statistics for the United States, pp. 33, 36.

TABLE IV

GOLD MOVEMENTS BEFORE CRISES IN ENGLAND AND THE UNITED STATES

ENGLAND ¹ (Gold is Normally Imported)		UNITED STATES ²	
Crisis		Crisis	
1866	Imports fell off slightly in 1863 and 1864; were larger in 1865.		
1873	Falling off of imports in 1871; excess of exports in 1872.		
1883	Large excess of exports in 1879, 1880, and 1881.	1884 (Period of excess of imports.)	Imports fell off in 1881, excess of exports in 1882, small imports in 1883.
1890	Small imports in 1887 and 1888.	1893 (Period of excess of exports.)	Excess of exports was large in 1891 and 1892.
1900	Large imports.	1903 (Period of excess of imports.)	Excess of exports in 1901, small imports in 1902.
1907	Imports below average in 1903, 1904, and 1906.	1907 (Period of excess of imports.)	Exports in 1904, small imports in 1905, very large imports in 1906.

¹ Compiled from National Monetary Commission's Statistics for Great Britain, Germany, and France, p. 66.

² Compiled from Andrews' Statistics for the United States, p. 11.

But the usual disturbance or breaking down of the credit mechanism is not, as some maintain, the main cause or even a necessary feature of the crisis.¹ For crises have occurred when banking reserves were quite in normal condition, as, for example, before the crisis of 1893 in the United States. The year 1892 was one of low interest rates the world over. The average rate for that year for the Bank of England was 2.54; for the Bank of France 2.66; for the German Reichsbank 3.20; for the Bank of Spain 2.70; and for the Bank of Belgium 2.70.² In the United States the ratio of reserves to deposit liabilities for the country as a whole was 16.6 per cent in May, 1891, 18.4 per cent in 1892, and 16.9 per cent in 1893. Interest rates were also low in the United States in 1892, thus showing that loans were not demanded in excess of the funds available. This situation, it is true, is in strong contrast to many pre-crisis situations in which credit has been expanded to the uttermost.³

There is always a contraction of credit *after* the crisis begins, because the loss of confidence in the future which stops investment activity also causes a contraction of credit since confidence is the foundation of all credit. But loanable funds are not always scarce *before* the

¹ Cf. Fisher, *Why is the Dollar Shrinking?* pp. 79-80. Tougan-Baranowsky, *op. cit.*, p. 265, says: "Lorsque le capital empruntable est en abondance, il n'y a jamais de crise financière." Hadley, *Economics*, p. 295, says: "The accepted view of the phenomena of commercial crises makes them the result of contractions in credit of the kind described in chapter viii."

Patron, *The Bank of France in its Relation to National and International Credit*, pp. 116-117, takes the sounder position that "The monetary crisis itself is almost always only an episode of the general crisis. The former has too often been erroneously considered as the cause of the latter. On this false notion was based the bank Charter Act of 1844." Leroy-Beaulieu, *Economiste Français*, November 30, 1907, p. 766 (also cited by Patron) speaking of the crisis of 1907 in the United States says: "As to the lack of money, and the defective organisation of national banks, they have been merely accessory, and have played no part until after the crisis had begun; they may have somewhat intensified it and widened its scope, but they remain only secondary elements."

² De Greef, *op. cit.*

³ Cf. Sprague, *History of Crises*, pp. 160-162.

crisis. If currency systems should be rendered so elastic that no failures ever occurred because of the inability to receive legitimate credit accommodations, crises would be less severe, undoubtedly, but no less genuine. For the reasons outlined above, there would still be years in which failures were heavier than usual, accompanied or followed by a decline in promotion activity. The contraction of credit is merely the last straw to the many firms on the verge of bankruptcy and their failures follow in rapid succession. In addition, many firms whose assets are unquestionably adequate but not readily convertible into liquid form go down in the general crash.

Jones¹ says that "A crisis is the sudden application of a critical conservatism to business transactions, leading to such a demand for liquidation as to cause a widespread inability among business men to meet their obligations." But I would put it just the opposite way: that in a genuine crisis it is the recognition of a widespread inability among business men to meet their obligations which causes the sudden application of a critical conservatism to business transactions and the general demand for liquidation. This conservatism in turn intensifies the difficulties of those in trouble and places additional firms in a precarious condition solely because of their inability to obtain customary credit accommodations.

That during the crisis year there are failures of concerns with more adequate assets than usual is shown by the rise at those times in the proportion of assets to liabilities of failed concerns. On the average of the 32 years, 1881-1912, the percentage of assets to liabilities of failed concerns is 52.5; but during the crisis years 1884, 1893, 1903, and 1907, the percentages rose

¹ *Economic Crises*, pp. 3-4.

respectively to 54.0, 60.6, 54.5, and 75.0.¹ But that the failures of the crisis year include as well an increased number of genuinely insolvent concerns is shown by the rise of net liabilities of failed concerns, that is, by the greater excess of total liabilities of failed firms over total assets in crisis years as compared with other years.

The *occasion* of the acute stage of the crisis, as distinct from the *cause*, is therefore the loss of confidence in the course of future enterprise. This psychological factor is manifest in every field of industry and finance. It is shown, as noted above, in the contraction of credit. It leads to unwarranted declines in the prices of stocks. If promotion has not already slowed up owing to the exhaustion of loanable funds or unwillingness of investors to buy so many speculative stocks, loss of confidence is an effective check to further investment activity and the demand for capital goods at once falls off. The loss of confidence also leads immediately to increased economies in consumption, so that the demand for consumption goods likewise falls off sharply. Retrenchment in every direction follows.

The *cause* of the crisis, as distinguished from the *occasion*, is the disturbance of the industrial equilibrium which results from the investment of social savings. Crises are therefore more severe in countries where savings or borrowings are great and investment proceeds rapidly. Those who see in crises a punishment for over-speculation, or for over-production,² or, as stated above, for a period of industrial debauch, are attaching prime importance to phenomena of secondary signifi-

¹ I have worked out these figures with care, but spare the reader the details.

² Professor Fairchild, *American Economic Review*, December, 1911, pp. 758-759, speaking of the underlying causes of crises in this country, says: "These are fairly well understood at the present time. A typical crisis may be said to be caused by speculative over-production, or over-speculative production."

cance. They have a viewpoint analogous to those who see in the operations of stock and produce exchanges nothing but manipulation, fraud, and gambling. It is true that promotion activity is accompanied by excesses of this kind which undoubtedly increase the severity of a crisis. But the aim should be to eliminate these excesses, not by discouraging the activity of the entrepreneurs,¹ as sometimes suggested, and thus checking progress, but by other means. Looking back over the series of crisis cycles and reviewing the great changes introduced during the successive periods of investment, it appears that railway mileage was increased and street car service expanded, that factories were built, public works erected, new mines opened, irrigated lands increased, new homes erected everywhere. Such things constitute material progress. Crises are the price of progress. The more rapid the progress, the more severe the crises.

MINNIE THROOP ENGLAND.

UNIVERSITY OF NEBRASKA.

Professor Fairchild, *op. cit.*, p. 761, says: "What is needed is some check on the unwarranted activity of the entrepreneurs, which will make them stop and consider whether the apparently bright business outlook rests on sound and permanent conditions, or is illusory and transient."

CAPITAL INVESTMENTS AND TRADE BALANCES WITHIN THE BRITISH EMPIRE

SUMMARY

Introductory. Effects of international lending and borrowing on imports and exports, 769. — I. British India. The debit and credit items, 770. — Tabular statements, 772. — Foreign capital investments and interest charges, 775. — Obvious gain from productive investments, 779. — II. Canada's heavy borrowings, 780. — Halt in 1914, 783. — Exports and imports, 785. — "Invisible" items, 786. — Approximate balance sheet, 790. — Imports from United States, 791.

EVIDENCE abounds that the dictum of Sir Robert Giffen that "the 'balance of trade' and 'the excess of imports over exports' are pitfalls for the amateur and unwary" has lost little of its pertinency. Recognizing alike the plausibility of the "favorable balance" doctrine and its widespread popular acceptance, the writer feels that it may be of interest to attempt an analysis of the trade balances of certain countries.

In this study, restricted to a survey of conditions within the British Empire, the endeavor will be made to apply deductively to a few individual countries the generally accepted propositions relating to the connection between capital investments and foreign trade conditions. In the interest of clearness let us summarize these principles.¹

Generally speaking, those countries of the world which have an excess of merchandise imports over

¹ A comprehensive statement on this question is contained in *The Trade Balance of the United States*, by Sir George Paish (in the U. S. National Monetary Commission Publications).

merchandise exports are the capital lending countries, whereas those whose exports exceed imports are the borrowing countries. This is so, because the lending country must secure payment, in the guise of imports, not only for its merchandise exports but also for the interest upon its capital invested abroad in earlier years. Similarly, if we exclude other factors from consideration, the capital-borrowing country must export more goods than it imports in order to offset the merchandise imported as well as to meet the interest charges upon the capital which it has previously borrowed. True, during the early stages of capital investment the lending country will normally show an excess of exports. Were these capital investments to extend over one year only, the excess of merchandise exports of the lending country during the period in question would approximately measure the amount of the capital loaned abroad. As time elapses, however, the total capital invested in other countries increases, altho at a diminishing percentage rate, while at the same time the annual interest charges owed to the creditor nation show a more than corresponding percentage increase. Eventually the time will arrive when the annual payments which the lending country receives as interest on its foreign investments will exceed the new and additional capital which it may lend each year. The same reasoning may be employed to show that the borrowing country, during the early stages, will normally import a larger amount of merchandise than will be exported, and that here too the passing of time brings in its wake a change in the trade balance. Ultimately the annual interest payments of the borrowing country on account of capital previously obtained will surpass in amount the new capital which it borrows in each year. Thus in the end, its merchandise exports will overtake and then exceed its imports.

It is obvious on reflection that any nation may in time change from the position of a "net" borrower to that of a "net" lender. The United States will serve to illustrate the possible transition. As is well known, its regular merchandise import excess down to 1873 was attributable chiefly to its heavy annual borrowings. The annual export balances since that year are largely explained as the result of heavy annual payments of interest and dividends on earlier borrowings. In recent years, however, the United States has shown signs of a new possible turn of the balance resulting from her increasing capital investments in foreign countries.¹ It is quite possible that in a not distant future the United States may find herself a "net" lender and that her merchandise balance will reflect this, both immediately and at a later date when the volume of her "net" interest and dividend receipts will reach and pass the volume of her annual new "net" lendings.

I. BRITISH INDIA

In applying these principles to the foreign trade conditions of various countries within the British Empire, India, because of her commercial importance, will be considered first. The various items which must be taken into account in making up India's balance of international debits and credits are as follows:—

¹ It is estimated by Professor W. Z. Ripley (*N. Y. Journal of Commerce*, December 6, 1911) that during the ten years ending in 1906, approximately \$250,000,000 of the securities of nine American railroads were returned to this country from Europe. In 1899 a large part of the 4 per cent bond issues of certain Swiss cities was subscribed by two American insurance companies. The diversion of considerable American capital into the construction of London tube railways, the flotation of Japanese and Chinese loans in this country, and the establishment of American branch banks in South America bear witness to this growing tendency of American capital to seek investment abroad. In 1911 it was stated in the *New York Journal of Commerce* that American investments in Mexico aggregated about \$700,000,000. In the opinion of Sir Edmund Walker, unofficially stated, the indebtedness of Canada to the United States amounted in 1914 to over \$500,000,000.

1. Merchandise imports and exports. To these the position of first importance must naturally be given.

2. Payments to foreign shipping interests. As is well known, India is forced to meet heavy charges on account of the transportation of her goods in foreign bottoms, since there are practically no India-owned steamships. Inasmuch, however, as these charges are for the most part included in the declared figures for imports, it is to that extent unnecessary to make any further allowance for them. After making reasonable adjustments between shipping debits against India and certain credits in favor of that country on account of port and pilotage dues, cost of coal and stores purchased in India, wages of the crew spent in India, etc., it is probable that the net result is a minor debit against India of not less than £33,000, over and above the amount for freight actually included in the values recorded for imports.¹

3. Investments of foreign capital in India and the payment of interest charges by India.

4. Other debits against India include various miscellaneous charges for the use of foreign capital or credit, by way of commission, premiums of insurance, remittances to England on private account, as for example on behalf of Indians residing in England.

5. On the other side will occur a corresponding credit to India on account of income remittances from England (or elsewhere abroad) to persons resident in India, such as British officers in enjoyment of independent incomes.

6. Private remittances of securities. The effect of this item is similar to that of number three.

7. Private imports and exports of the precious metals. In striking the balance of accounts these should be

¹ Report for 1913-14 of Controller of Currency for India, p. 55.

treated as imports and exports of other commodities on private account.

8. The transactions of the Indian government, whether in the form of loans, remittances of interest, imports and exports of the precious metals or of other commodities.

In somewhat condensed form the following table presents the chief items of the foreign trade (*i. e.*, the "visible" exports and imports) of India for a series of years.¹

(Figures denote £ millions)

	1905-06	1907-08	1909-10	1910-11	1911-12
<i>Imports:</i>					
Private Merchandise ...	£68.7	£86.6	£78.0	£86.2	£92.4
Government Stores	6.0	4.4	3.7	2.9	3.6
Total	£74.7	£91.1	£81.7	£89.1	£96.0
<i>Exports:</i>					
Private Merchandise ² ...	£107.9	£118.3	£125.3	£139.9	£152.0
Net Exports of Merchandise	33.1	27.2	43.5	50.8	55.9
Imports of Treasure	21.1	28.2	25.0	26.5	35.6
Exports of Treasure	10.3	3.6	4.3	4.8	6.9
Net Imports of Treasure...	10.8	24.6	20.7	21.7	28.7
Net Excess of Exports, including merchandise and treasure	22.4	2.7	22.8	29.1	27.2

After taking into consideration all debit and credit transactions (the "invisible" exports and imports as well as the "visible") there is customarily a small net balance in favor of India. Occasionally, however, an adverse balance is confronted. For example, during the fiscal year 1907-08 there resulted a net debit against India. It was attributed to a famine in India, a credit crisis in the United States, and other unfavorable con-

¹ Statement of Moral and Material Progress and Condition of India for 1911-12, p. 286.

² Including Government Stores: a very small item, in no year exceeding £100,000.

ditions. Again during 1913-14 an adverse balance appeared. In that year, altho gross merchandise exports were slightly larger than ever before, the volume of gross merchandise imports was so much larger than in any preceding year that the excess of merchandise exports was the smallest in five years, as noted in the following table.¹ In contrast to the previous tabulation, no account here is taken of government stores, railway equipment, and the precious metals.

(Figures denote £ millions)

	1909-10	1910-11	1911-12	1912-13	1913-14
Gross Exports of Private Merchandise	£125.3	£139.9	£152.0	£164.1	£165.9
Gross Imports of Private Merchandise (less railway plant and rolling stock) .	74.4	83.3	89.7	103.0	115.5
Net Export of Private Mdse.	50.9	56.6	62.3	61.1	50.4

In this statement, no provision is made for the large quantity of railway material imported into India. In the painstaking Report for 1913-14 of the Controller of Currency for India, it is stated that the imports into India of railway plant and rolling stock during the fifteen years from 1899-1900 to 1913-14 inclusive were valued at £75 millions. Of this amount, however, nearly £60 millions were paid for by capital raised in England either by the Government of India or by railway companies. The balance was met by government remittances from India. Obviously it would be misleading, therefore, as pointed out in that Report, in making up India's international account to debit her, as is often done, with the imports of railway material unless there be entered as corresponding credits (a) the net capital raised in Great Britain to purchase the material and (b) the export of funds from India in

¹ Report for 1913-14 of the Controller of Currency for India, p. 51.

the form of government remittances to the extent to which these are applied to capital outlay. After making the necessary adjustments to meet this fact, after making provision for such credit items as foreign loans contracted by industrial companies and the so-called "port-trusts," and after taking account of such debit items as interest charges on foreign loans, private remittances abroad, the importation of bullion, etc., the *Report* presents a net balance sheet for India for a series of years. The results may be epitomized as follows: ¹—

(Figures denote £ millions)

	Average for the 10-Year Period 1899-1900 to 1908-09	1909	1910	1911	1912	1913	Total for 5- Year Period 1909-1910 to 1913-14
The net or "unex- plained" balance	£0.5	£2.2	£5.2	£3.1	£2.0	£-6.0	£6.3

It is admitted that many of the figures in this balance sheet, altho based on the most reliable available data, are estimates only. The abnormal balance for the year 1913-14 was due probably to certain unusual circumstances. Owing to the large accumulations in China of opium exported by Indian merchants, the price of opium did not enable them to realize in full on such exportation, with the result that this credit to India was being met gradually and therefore was partly extended over into the succeeding year. It is believed also that the Exchange banks in India strengthened their balances during this year. Furthermore, it is probable that the imports of capital into India in the form of mill machinery, railway rolling stock, and the like, were larger than usual, or else (and this would have the same effect) that some portion of the profits of existing companies were retained in India for the same purpose.

¹ Report for 1913-14 of the Controller of Currency for India, p. 53.

² The balance for 1913-14 is minus £6,000,000.

The degree to which India has been dependent in the past on foreign capital for her productive enterprises can scarcely be exaggerated. The total capital outlay on railways to the end of the fiscal year 1913-14 was £369,265,000 (about \$1,845,000,000).¹ On irrigation projects, the other chief branch of public works, the capital expenditure to the end of the year 1912-13 amounted to £43,442,253 (about \$217,000,000).² The United Kingdom owns and subscribes the great bulk of the foreign issues of Indian securities. That this is so may be inferred from a condensed statement of the debt of India. The total debt is classified in the accounts as (1) Public Works Debt and (2) Ordinary Debt. The amount entered as belonging to the former category is the equivalent of the capital expenditure which has been incurred by the State on public works together with the amount advanced to railway companies for disbursement; the "Ordinary Debt" consists of the remainder. The classification of the debt outstanding on March 31, 1913, follows:³—

(Figures denote £ millions)

(a) Public Works Debt:—	
Debt for railways	£211.8
Debt for irrigation works	37.6
For initial expenditure on new capital at Delhi	0.1
<hr/>	
Total of Public Works Debt	£249.5
(b) Ordinary debt (the balance)	24.9
<hr/>	
Total permanent debt, March 31, 1913	£274.4

Of this total indebtedness, £179 millions was held in England, while the remainder, £95 millions, was held in India.

¹ Report for 1913-14 of Railway Department, vol. ii, p. 271.

² Statement of Moral and Material Progress and Condition of India for 1912-13, p. 77.

³ Statement of Moral and Material Progress and Condition of India for 1912-13, p. 20.

That the relation between Indian exports and imports must be affected by the continued practice of borrowing abroad is obvious. In large measure the loans secured by India in England for railway development, irrigation, etc., have taken the form of imports into India of railway rolling stock and other equipment. In 1911-12 for example the capital outlay on railways, irrigation, etc., was £9,501,700, of which £5,082,700 was spent in England and £4,419,000 in India. The following table will further illustrate the past relationship existent between capital investments and imports of materials.¹

Year	Indian Railway Company Issues in London	Imports of Railway Plant and Rolling Stock	
		From United Kingdom	From Elsewhere
1907-08	£2,200,000	£4,656,597	£143,953
1908-09	6,894,200	4,745,709	200,891
1909-10	3,183,900	3,251,473	375,591
1910-11	3,100,000	2,528,984	301,237

Whereas the effect of borrowing capital abroad is to swell merchandise imports, as pointed out in the early part of this paper, the interest charges on such capital will tend, on the contrary, to augment the exports of the borrowing country. Therefore the customary excess of merchandise exports of India would lead one to expect to find a probable excess of "invisible" exports (such as interest charges, remittances, etc.) over imports of capital. An attempt is made to apply this principle to conditions within the quite typical year 1911-12. The amount of new capital loaned annually to India is included under two main heads, namely, that invested in public works and that loaned for purposes exclusive of such enterprises. The total capital expenditure on railways in India has not as yet exceeded £12,500,000 in any one year nor has the amount expended on irriga-

¹ Report of Royal Commission on Indian Currency, vol. i (Cd. 7070), quoted by Hobson, *The Export of Capital*, p. 10.

tion surpassed £2,500,000 within any twelve month period.¹ A large portion of the joint outlay on public works does not involve foreign loans, inasmuch as a considerable part of the expense is met from income. The new capital loaned to India, for other than railway and irrigation purposes, has been estimated to have been on the average between £2,000,000 and £3,000,000 a year, during the past fifteen years.² It must be recalled that a large part of India's foreign loans enter the country in the form of railway and mill equipment and as such it is counted in merchandise imports. Therefore the amount of *net* capital flowing into India annually is much reduced.

The average annual capital subscription in Great Britain, during the past fifteen years, for railways, less the value of imports of railway equipment, will represent the net capital raised in England for Indian transportation facilities. For the period in question the average net capital for this purpose is estimated at a little less than £4,000,000 per year.³ Applying the same correction in the case of loans for irrigation, industrial plants, etc., it may be asserted that the total net capital raised in England on account of India probably has not been on the average over £5,000,000 a year.

That the total of outflowing interest charges is much larger is apparent from the following table of Home Charges of the Government of India. ⁴

¹ Statement of Moral and Material Progress and Condition of India for 1912-13, pp. 312-317.

² Report for 1913-14 of Controller of Currency for India, p. 53.

³ *Ibid.*, p. 49.

⁴ Statement of Moral and Material Progress and Condition of India for 1912-13, p. 161.

YEAR 1911-1912

Interest and management of debt, and payment of interest, etc., on account of railways and irrigation works	£10,768,754
Payments in connection with Civil Departments in India	233,672
India Office (excluding pensions)	184,870
Army and Marine effective charges	1,016,597
Stores of all kinds charged against revenue	1,191,371
Furlough allowances	988,853
Non-effective charges (pensions and gratuities) ..	4,481,129
Total	£18,865,246

Undoubtedly private remittances from India considerably swell this total. It may be shown that such payments amount roughly to about £6,000,000. In the first place, it has been estimated by Indian Exchange Banks that *net* private remittances from India amount to about £2,000,000 per year; there are also certain railway remittances which do not pass through the government account and which are believed to reach the figure of somewhat over £500,000; in this category also must be placed interest payable on foreign capital invested in industry and agriculture, which amounts to about £2,500,000 per annum. Certain minor factors, such as the payment to foreign shipping companies, may be assumed to account for an additional outflow of not less than £500,000. Therefore the total charges of this kind against India may be placed at about £25,000,000. From this must be deducted the average annual imports of *net* capital, which we have seen to be about £5,000,000. The resulting excess of "invisible" exports (*i. e.*, interest charges, etc., over and above the inflow of *net* capital) for the year 1911-12 is therefore estimated to have been £20,000,000 or over.

It will be recalled from earlier figures that the net exports of merchandise, including treasure, for the year

1911-12 amounted to £27,223,901. In still another table it was shown that the net or "unexplained" balance (that is, the actual inflow of specie into India) for the same year equalled £3,100,000. Accordingly we have a remaining excess of merchandise exports of £24,000,000 to be accounted for by an excess of "invisible" exports. The latter excess, in the present study, is computed at somewhat over £20,000,000. The disparity between these amounts is doubtless largely the outcome of over-conservative estimates where definite statistics are not available.

With ever increasing investments of foreign capital in India and the accompanying growth of interest charges, a continuing and increasing excess of merchandise exports will normally prevail. Indeed, during the past fifteen years this tendency already has begun to manifest itself, for exports have grown much more rapidly, in the main, than imports.

The argument that the excess of merchandise exports of India represents an economic loss deserves but scant attention. The redundant merchandise exports are the logical result of India's excess of "invisible" exports. The latter excess in turn, as already mentioned, is to be attributed to heavy interest charges on foreign capital investments and to political expenses incident to the government of India. The investment of foreign capital has made possible for India the construction of 35,000 miles of railways, thousands of miles of irrigation canals, and a striking industrial development. And yet the mercantilist critic of Indian affairs will argue that because interest charges must be paid to foreign investors of capital, India is being unjustly exploited.

The contention is the more obviously unfounded in view of the circumstances connected with the public debt of India. Of the permanent funded debt, the

"ordinary" debt alone imposes a burden on the Indian tax-payer, inasmuch as the interest on the public works debt is charged against the revenue from railways and irrigation works. Far from being a dead weight on the tax-payer, the railways and irrigation works ordinarily yield a revenue sufficient to meet not only their own interest charges, but also the remaining charge on account of the ordinary debt. For many years, the amount of the ordinary (or unproductive) debt has, in spite of fluctuations, shown a continual diminution. At the same time, the productive, or public works, debt has been uniformly increased. The following table shows the distribution of the total permanent debt between the "Public Works" and "Ordinary" heads.¹

(Figures denote £ millions)

	Ordinary (Unproductive) Debt	Public Works (Productive) Debt
Calendar Year 1862.....	£76.0	£2.4
31st March, 1902	69.2	138.6
31st March, 1907	37.9	196.6
31st March, 1912	33.0	238.7

In the opinion of Mr. S. M. Mitra, a careful Hindu student of Indian conditions, "the collective testimony of Indian statistics makes it impossible for any reasonable man to doubt that India is *prospering*, slowly but surely."

II. CANADA

In Canada, conditions prevail which are in sharp contrast to those in India. The trade balance of the Dominion is marked by an excess of imports. And to heighten the contrast it may be noted that whereas the

¹ Statement of Moral and Material Progress and Condition of India for 1911-12, p. 162; also *ibid.* for 1901-02, p. 143.

Indian excess of exports has been growing more pronounced during the past two decades, in Canada, on the other hand, there has been a general increase in the excess of imports during the same period. And yet, despite the excess of merchandise imports which in recent years has prevailed in Canada, merchandise exports must, in the course of time, come to surpass imports. This readjustment in the trade balance is likely to be effected, not through any decline in the volume of inflowing capital, but because of Canada's accumulating interest charges from the very increase in the volume of foreign investments. The interest payments of Canada on earlier investments to other countries will eventually surpass in volume the new foreign capital invested annually.

That Canada has been an increasingly attractive field for foreign investors is familiar. At the end of the year 1910, it was stated by Sir George Paish that British capital had been invested in Canada to the extent of \$1,800,000,000.¹ In March, 1915, the opinion was unofficially expressed by Sir Edmund Walker, President of the Canadian Bank of Commerce, that British investments in Canada probably amounted to not less than \$2,750,000,000.² It must be added, however, that Sir Edmund Walker included in this total the indebtedness of Canada to the continent of Europe, inasmuch as continental investing in the Dominion has been carried out chiefly through London. Such investments of the countries of the continent, however, amounted in 1913 to not over \$175,000,000.³ After making the proper adjustment on account of this item, it will be noted that

¹ Paper read before Royal Statistical Society in London in December, 1910.

² This statement was contained in a communication from Sir Edmund Walker to the writer.

Field, *Capital Investments in Canada*, pp. 67, 73.

during the three years, 1910-13, British investments in Canada increased about \$775,000,000, or nearly 45 per cent. An even greater rate of increase is to be noted in the flow of American capital into Canadian channels. Whereas the approximate volume of United States investments in Canada amounted in 1909, to \$279,000,000, the estimate for 1913 was \$637,000,000.¹ This represents an increase of about 127 per cent during the four years.

It is probable that during the three years immediately preceding the outbreak of the European war Canadian borrowings of foreign capital averaged well over \$300,000,000 per annum. And in 1913, in the course of an address in Toronto, Sir George Paish predicted that within fifteen years new or further British investments amounting to \$2,500,000,000 would be made in Canada. The present war obviously will obstruct the fulfilment of this prediction.

Canada may be likened to a young man, energetic, ambitious, and in possession of an extremely valuable but unimproved estate, for the improvement of which much capital is needed. To complete the analogy we must picture a parent willing to lend all the capital necessary for the development of the estate. During the period of construction the young man has been taking care of the interest charges on his indebtedness readily enough through the contraction of new loans. Obviously our young man cannot permanently overlook the fundamental consideration that his construction expenditures must be justified in the end through an increased production of wealth proportional to the investments. That is, he must provide eventually for foreign debt charges from current income and not as heretofore from capital account.

¹ Field, *Capital Investments in Canada*, p. 25.

Even before the outbreak of the European war emphasized the necessity of an economic readjustment in Canada, a halt had been called in the almost head-long construction of railways and other capitalistic plant. Indeed this transition began several years before August, 1914. A well-timed hint from certain prominent English investment houses in the summer of 1909, was taken to heart by Canadians. These British banking firms, interested in Canadian enterprises, agreed not to undertake any new Dominion flotations for several months. During that time the flow of British capital to Canada through its principal channel, practically ceased. "The cause of the financiers' decision," declares Mr. F. W. Field, "was undoubtedly the unusually heavy borrowing by Canada, its tendency to exceed due bounds, and the attempt to market a few worthless securities among a large number of good ones."¹ Enjoying for so long a time an almost unlimited credit in Great Britain, it was quite natural for Canada to invest heavily, oftentimes blindly, in development works. So rapidly has this taken place that Canada, notwithstanding a population of less than 9,000,000, has today three transcontinental lines. She enjoys the distinction of having more railroad mileage per capita than any other country in the world. The reciprocal fact is obvious that this is a questionable distinction, since Canada therefore must have fewer people per mile than any other country. Railroad construction clearly has been carried to a point far in advance of present requirements. Indeed it is maintained that general railroad construction in Canada has been carried five to ten years ahead of immediate demands. The total mileage increased from 17,657 in 1900 to 29,304 in 1913, or nearly 65 per cent. During

¹ Field, *Capital Investments in Canada*, p. 168.

the same period, the capital liability of railways increased from \$784,042,799 to \$1,531,830,692,¹ or substantially 100 per cent. Meanwhile, however, the population of the country increased only about 43 per cent. The rapidity of development of railroads has its counterpart in the industrial field and in the expansion of building throughout the country.

Feeling that construction enterprises had outstripped the population demands, many realized that it was time to demonstrate by increased production the wisdom of previous years of building. The tightening of the European money markets, owing to the Balkan crisis, and the difficulty of obtaining the usual supply of capital from Great Britain on normal terms, doubtless brought about the readjustment earlier than would otherwise have been the case. Among the various evidences of reduced activity during the year 1913 may be noted a distinct contraction, particularly in the west, in the volume of building permits, a decline in bank clearings, and an increase in the number of commercial failures.

While engaged in the enforced but thoroly wholesome process of economic readjustment, Canada suddenly found her task greatly complicated by the outbreak of the war. Owing to the unprecedented demand on the world's capital, due to the war, Canada's financial embarrassment increased. Despite the hardships entailed upon those directly dependent on the active prosecution of the program of national construction, for the country as a whole the war may prove after all only a mitigated evil. It has hastened the economic transition, and it undoubtedly will aid in differentiating between the essentially sound investment enterprises and those based on uneconomic foundations.

¹ The Canada Year Book, 1913, p. 444.

In computing Canada's balance of international debits and credits the items to receive first attention are the "visible" (i. e., merchandise and bullion) exports and imports. In the following table these are tabulated for a series of fiscal years.¹

(Figures denote \$ millions)

	1911	1912	1913	1914
<i>Imports:</i>				
Merchandise	\$462.0	\$533.3	\$686.6	\$635.5
Bullion	10.2	26.0	5.4	15.2
Total	\$472.2	\$559.3	\$692.0	\$650.7
<i>Exports:</i>				
Merchandise	\$290.0	\$307.7	\$377.1	\$455.4
Bullion	7.2	7.6	16.1	23.6
Total	\$297.2	\$315.3	\$393.2	\$479.0
Net Excess of Imports (merchandise and bullion)	\$175.0	\$244.0	\$298.8	\$171.7

For the three years ending March, 1913, the average annual excess of imports was \$239,000,000. Let us note the "invisible" items of Canada's balance sheet in order to show the corresponding excess of "invisible" imports over exports. Naturally such an excess would be expected to offset approximately the excess of merchandise imports.

Among the "invisible" items, the most important are the flow into the country of borrowed foreign capital and the outflow of interest and dividend charges to the owners of such capital. It will be recalled that in the opinion of Sir Edmund Walker, the total of British and other European investments in Canada is approximately \$2,750,000,000. From the investigations of the editor of the *Monetary Times*, it appears that the estimated total

¹ Report of Department of Trade and Commerce, 1912, pt. 1, pp. 28-37. Canada Year Book, 1913, pp. 228, 232, 233.

investments of the United States in Canada, in 1913, amounted to \$636,903,952.¹ If we accept the figure \$3,400,000,000 as representing, within a slight margin of error, the total of Canadian indebtedness abroad, it will be possible to estimate with reasonable approximation the annual interest charges. Accepting 4½ per cent as the average interest rate,² Canada's interest payments abroad during 1913 amounted to about \$148,000,000. This amount, however, must be somewhat diminished by reason of the fact that we are seeking the *average* for the period. Obviously the annual interest payments during the earlier years were less than the figure noted, owing to the subsequent swelling of the total investments within the country. Making adequate adjustment to meet this fact, there remain as the average annual interest charges during the years 1911-13 approximately \$125,000,000. It has already been mentioned that during the years immediately before the outbreak of the war, Canadian borrowings of foreign capital probably averaged well over \$300,000,000 per year. Therefore during that period it would seem that Canada was receiving annually a *net* inflow of capital, from the two items under consideration, of about \$175,000,000.

Another "invisible" item in Canada's balance sheet is the capital carried into the country by American farmers emigrating into the Canadian west. In his Budget Speech of May 12, 1913, the Honorable W. T. White, the Minister of Finance, estimated that this class of immigrants took with them into Canada capital to the extent of \$1000 per capita. The average annual number of immigrant arrivals from the United States

¹ Field, *Capital Investments in Canada*, p. 25.

² This rate was advanced by Sir Edmund Walker, in his communication to the writer, as a fair basis for calculation.

during the three years from 1911 to 1913 was 131,000.¹ If the estimate of Mr. White be accepted, account must be taken of this "invisible" import of \$131,000,000 per annum during the selected period. From this amount, however, a deduction must be made for the "effects and cash" of emigrants from Canada, most of whom enter the United States. During the three years 1911-13, the average annual number of immigrant arrivals in the United States from Canada was 62,790.² There is also a considerable return movement back into the United States on the part of American citizens who have emigrated to Canada. During the two years ending June 30, 1911, this back-flow of Americans from Canada was equal, numerically, to one-third of the outward movement.³ If this ratio be adopted as approximately applicable during the period under consideration, the number of American emigrants returning from Canada averaged about 43,000 per year. The total arrivals therefore in the United States from Canada during these years averaged 105,000. The fact should be borne in mind that the typical Canadian emigrant seeking a home in the United States, is a man possessing little beyond ambition, and that the American returning from a brief sojourn in Canada is normally one who has been disappointed in his search for better conditions. Accordingly the estimate that these two classes of arrivals in the United States bring with them capital not exceeding \$500 per head will probably be deemed liberal. Proceeding on this assumption, the total capital carried annually from Canada into the United States by Canadian emigrants and American settlers returning from the Dominion may be estimated to average about \$50,000,000. On account, therefore, of the immigration and

¹ Canada Year Book, 1913, p. 105.

² Statistical Abstract of the United States, 1913, p. 96.

³ Husband, American Economic Review, Supplement, March, 1912, p. 84.

emigration movements between the two countries, there is a resultant net "invisible" import of about \$80,000,000 per year into Canada. It must be admitted that this is, in a degree, a conjectural estimate.

An "invisible" item which, because of insufficient data, must be approached with caution is that of private remittances both into and out of Canada. During the three fiscal years 1911-13 the value of money orders issued in Canada and payable in other countries averaged annually somewhat over \$32,000,000; whereas the value of money orders issued in other countries and payable in Canada, during the same period, averaged each year \$8,700,000.¹ From these items accordingly we find an average net outflow from Canada of \$24,000,000. There is no available information, however, which shows what proportion of these orders is represented by business and private remittances, nor is it at all certain that all private remittances flowed through this channel.

There are other "invisible" items sufficiently important to merit notice. Canada is obliged each year to meet considerable charges on account of the carriage in foreign ships of much of her over-seas trade. On the other hand, the annual earnings of the Canadian merchant marine represent an inflow of some importance. Again, Canada each year serves as a vacation land for thousands of tourists whose various expenditures may be regarded as a not unimportant "invisible" import. Naturally there is also a corresponding export in the expenditures by Canadians in the United States and Europe.

Unfortunately, however, so far as it can be discovered,² there are no published statistics nor even

¹ Canada Year Book, 1913, p. 493.

² The following authorities were unanimous in declaring the total absence of statistical data concerning these items; the Editor of *The Monetary Times* (Toronto), the Census and Statistics Office (Ottawa), the Canadian Department of Trade and Commerce, and the Department of Marine and Fisheries.

official approximate estimates pertaining to the "invisible" imports and exports referred to above. Accordingly the attempt to handle such items must be based in considerable degree on reasonably sane guess-work.

For the purpose of the present inquiry the following compromise plan will perhaps be deemed reasonable. It is probably true in respect to the shipping items that the annual charges which Canada is called upon to meet, for services rendered by foreign shipping interests, are in excess of that portion of the annual earnings of Canadian ships derived from the carriage of goods of foreign countries. At the same time, it is doubtless true that the expenditures of tourists and other visitors annually in Canada surpass in volume the outflow of capital on account of the expenditures of Canadians in other countries. Accordingly we may offset the former balance against Canada, on account of shipping charges, by the latter balance in favor of Canada. This adjustment probably involves a not unduly large margin of error.

The results may be epitomized in the tabular form on page 790.

The resultant total net ("unexplained") balance of \$8,000,000 is to be attributed to the margin of error admittedly present in the calculation in respect to the shipping and tourist items.

Canada owes much to the British investor, if only because he has almost entirely financed its extensive railway system.¹ In contrast to the experience of India, however, Canada, despite its heavy borrowings in London on account of railways, does not import its railway materials to any large extent from the United Kingdom. Canada, having developed an important

¹ Field, *Capital Investments in Canada*, p. 118.

APPROXIMATE BALANCE SHEET OF CANADA. FIGURES REPRESENT
ANNUAL AVERAGES FOR THE PERIOD 1911 TO 1913

(Figures denote \$ millions)

Visible Exports and Imports:

Exports and imports of merchandise, including bullion:
Average excess of imports \$239

Average annual excess of "visible" imports \$239

Invisible Exports and Imports:

New capital imported and interest payments payable
abroad: average net inflow \$175

Capital carried into Canada by immigrants and out by
emigrants: average net inflow 80

Payments effected through the issuance of money
orders: average net outflow 24

Payments on account of ocean freights and earnings of
Canadian ships; expenditures in Canada by tour-
ists, etc., and abroad by Canadians: estimated to
balance.

Average annual net inflow (i. e., "invisible" import) 231

metallurgical industry, is able to supply in large measure the rails, locomotives, and other equipment required for domestic use. The following figures indicate the relative unimportance of the Canadian market to the British producer of railroad materials.¹

Year	Canadian Railway Issues in London	Imports of Iron and Steel Railway Bars and Rails into Canada:	
		From United Kingdom	Total
1907	£2,020,100	£46,311	£373,573
1908	12,395,500	17,459	255,617
1909	8,060,500	64,328	159,496
1910	5,525,800	58,944	279,675
1911	19,608,200	15,024	179,197

The trade statistics of Canada show that British shipments of other kinds of railroad materials and of general merchandise are equally insignificant compared with the amount obtained elsewhere. It is apparent upon examination of the merchandise import figures of

¹ Hobeon, *Export of Capital*, p. 14.

Canada that England does not export goods to the Dominion equal in value to the capital supplied. The following table shows the total imports into Canada from the United Kingdom and the United States during a series of years, excluding coin and bullion.¹

(Figures denote \$ millions)

Fiscal Year	Imports into Canada from:	
	United Kingdom	United States
1910	\$95.7	\$233.0
1911	110.6	284.3
1912	117.2	342.2

To facilitate a comparison of Canada's separate trade balances with the United Kingdom and the United States, statistics are presented in the following statement showing exports from the Dominion to the two countries, during the years 1910 to 1912, excluding coin and bullion:²—

(Figures denote \$ millions)

Fiscal Year	Exports from Canada into:	
	United Kingdom	United States
1910	\$149.6	\$110.6
1911	137.0	112.2
1912	151.8	113.0

It will be noted from the above tables that Canada, during the period under consideration, exported goods to Great Britain in excess of goods imported from the same to the extent of an average of \$40,000,000 per year. At the same time, the excess of Canadian imports from the United States over exports to that country showed an annual average value of about \$175,000,000. These facts lend support to the common assertion that English loans to Canada help that country to finance its American trade. English capital

¹ Report of Department of Trade and Commerce, 1912, pt. 1, pp. 28-31.

² Ibid., pp. 32-35.

therefore "passes to Canadians in the form of American goods."¹

Aside from the influence of geographic proximity there is an important reason for the disparity in the importation into Canada of American and British goods. In the past, the great bulk of British investments have gone into government securities and railway and industrial bonds, comparatively little into industrial stocks, which carry the technical management. American capital on the other hand has entered Canada chiefly as branch factories and other outright industrial investments.² This question is discussed in the report of a former British Trade Commissioner in Canada. "The purchase of government securities and municipal bonds," he declared, "and even of the bonds and shares of the great Canadian railroads—the forms which British investment has hitherto principally taken—operates less directly and immediately to stimulate trade than the investment of capital in varying amounts over a wide range of industrial concerns, together with the establishment of branch factories and agencies of all sorts, which has been characteristic of the form of American interest in the development of Canada."³

On account of the great increase in the rate of flow of British and American capital into Canada during the past decade, Canadian imports have grown at a faster rate than exports, as the following statement will show:⁴—

¹ Bonar, *Proceedings of the Canadian Political Science Association*, 1913, p. 85.

² Wickett, *Annals of American Academy*, vol. xiv, pp. 40, 41.

³ Quoted in Field, *Capital Investments in Canada*, p. 192.

⁴ *Canada Year Book*, 1913, p. 228.

(Figures denote \$ millions)

Years	Total Exports	Total Imports	Ratio of Exports to Imports
1901	\$196.5	\$190.4	103.19 per cent
1902	211.6	212.3	99.70 "
1903	225.8	241.2	93.63 "
1904	213.5	259.2	82.37 "
1911	297.2	472.2	62.93 "
1912	315.3	559.3	56.38 "
1913	393.2	692.0	56.83 "
1914	479.0	650.7	73.60 "

This situation, however, cannot persist indefinitely. In the not distant future the present disparity in value between exports and imports must shrink, then disappear, and later be followed by an excess of exports. For an indefinitely long period thereafter the Canadian trade balance will be marked by such an excess of exports. This expected change in the balance of Canada, similar to that which occurred in the United States trade balance about 1873, may ultimately give way, in turn, to a further readjustment of exports and imports. As pointed out in the early part of this paper, the United States may, in time, find that the volume of her "net" interest and dividend receipts will reach and surpass her annual new "net" lendings. This new relation will then be reflected in her merchandise balance. Altho as yet there are substantially no Canadian investments abroad, it is not inconceivable that here too the experience of the United States may in the end be repeated in Canada. But speculation of this sort goes far beyond anything indicated in the present situation.

THEODORE H. BOGGS.

DARTMOUTH COLLEGE.

THE BRITISH TAXES ON LAND VALUES IN PRACTICE

SUMMARY

I. The valuation, 795. — Reasons for delay, 796. — Minus site values, 796. — Possibility of taxing builders' profits, 796. — Value of real property in Great Britain, 799. — Accuracy of valuation, 800. — Difficulty of valuing agricultural land, 801. — Other duties of the Valuation Department, 802. — Cost of valuation, 803. — II. The fiscal yield: (1) Increment Value Duty, 804. — (2) Reversion Duty, 805. — (3) Undeveloped Land Duty, 808. — (4) Mineral Rights Duty, 810. — Increased yield of Death Duties, 812. — Other revenue from valuation, 814. — Is it a capital expenditure? 814. — III. Some conclusions: effect on building, 815. — Theory of incidence, 817. — Is an increment duty shown to be impracticable? 818.

It is now nearly six years since Mr. Lloyd George startled the British people, and the economists of the English-speaking world, by his proposals for a new system of taxes on land and allied forms of wealth, and a valuation of all the real property in the United Kingdom. This valuation was expected to disclose a vast and hitherto untapped reservoir of taxable income — the so-called unearned increment — and also to be of great assistance in the collection of existing taxes, both national and local, besides furnishing useful information to statisticians and others interested in agriculture, housing conditions and similar questions. It is of interest to inquire to what extent these expectations have been converted into facts.

I. THE VALUATION

The valuation, begun in the spring of 1910, will not be complete, even as regards provisional valuations, before June, 1915, and the date when these provisional valuations will have been legally established cannot be even approximately stated. There is great reason to believe that as a result of recent judicial decisions the values of nearly all agricultural properties, and of a great many others, must be calculated over again on a different basis.¹

The last report of the Commissioners of Inland Revenue² states, with reference to the case of *Commissioners of Inland Revenue v. Smyth*: "The result of this decision, which reversed, on these two points, the practice upon which the valuations had hitherto been made, was the suspension of all valuations of land in which an element of agricultural value was present." The two points referred to were: (1) that in calculating gross and total values the value of the tenant's interest in unexhausted manures or tillages must be included; and (2) that in arriving at full site value the land must be deemed to be divested of grass.

Other decisions also may be expected to make a considerable difference in valuations, if the owners affected think it worth while to take advantage of them. The most important is *Commissioners v. Clay*, in which the Court of Appeals held, May 28, 1914, that in calculating gross value it is necessary to take into account the value which a property has for a particular purchaser over and above what it may be worth to the general

¹ Mr. Lloyd George declared, as recently as March 10, 1915, that it was impossible to reopen valuations that had been finally completed. But he has always refused to state how many had reached that stage, and they are probably very few.

² For the year ended 31st March, 1914 [Cd. 7572], p. 144.

public. This is a very delicate point, as the law requires that the sale must be made "in the open market by a willing seller," and it is very difficult to decide whether a property owner who is tempted by an unusually good offer is or is not a "willing seller." In the case of *Hornby v. Commissioners*¹ such a seller was held not to be willing in the requisite sense, and the price received was not accepted as evidence of actual value. On the other hand the case of *Glass v. Commissioners*² decided that if there were a probability of land being required for public use, the value of that probability must be added to the normal value of the land.

Judicial decisions were responsible for much of the delay in valuation in the past as well as at present. After the decision of the Valuation Appeal Court in Scotland, April 18, 1912, to the effect that assessable site value could in no case be a minus quantity, valuations were suspended in those parts of the country where feu duties and heavy ground rents are common. This decision was reversed by the House of Lords, May 2, 1913.³

Minus site value is of course merely a legal concept, without any counterpart in economic theory. It results from the method of valuation prescribed by the Finance Act, and occurs only when the net value of a property, after deducting the burden of fixed charges, is less than the value attributable to capital expenditures on the property. In such a case the actual site value may be, in fact must be, at least equal to zero;⁴

¹ LVith Report of Inland Revenue, for the year ended 31st March, 1913 [Cd. 7000], p. 160.

² LVIIth Report of Inland Revenue [Cd. 7572], p. 162.

³ *Herbert's Trustees v. Commissioners* ([1913] A.C. 826).

⁴ If a building does not show a normal return on its cost of construction because of its poor location, that does not mean that the site value is less than nothing: for if the

yet to the legal owner it is a minus quantity, so long as the surrounding circumstances remain unchanged. But it is obvious that if the value of the site increases, even if it does not become equal to or greater than the fixed charges, the owner benefits by the full amount of the increase, since his property is more valuable, while the fixed charges remain the same. Hence for the purpose of a tax on increment, minus site values are a perfectly legitimate device. For any other form of tax they are impossible.

The system of ascertaining site values by deducting various amounts from the total value does not commend itself to professional valuers, who usually prefer to estimate it directly, on the basis of sales of near-by property, or from a calculation of the profits that might be derived from it if properly developed. As the law is worded there is little difference in the results for the primary valuation, as on 30th April, 1909, save that, in the rare case of a site which would be worth more cleared than as it stands, it must be valued at the lower amount. But when it comes to a later valuation, on an occasion when Increment Duty is payable, according to the law any gain accruing to a dealer in land as a result of his skill at buying and selling is automatically accredited to site value and made subject to the tax. This results from the fact that site value under the act is a residuum; and if the total value is increased, while

site is poorly adapted to the building, so also is the building poorly adapted to the site, and the loss must be attributed to both. After a building is erected its cost has no further influence on its value, which is dependent on the principle of quasi-rent. The only limit to its depreciation is the value of its materials, minus the cost of demolition. Similarly, the minimum value attributable to the site is its value when cleared, minus the cost of clearing in case and to the extent that that cost exceeds the value of the material removed. This minimum can never be less than zero, for if it were the owner would abandon the property. Even if the property were a nuisance to neighboring sites it could not be worth less than zero, for the detriment attaches not to the ownership of the property but to its existence, and affects surrounding site values, but not that of its own site.

the deductible factors remain unchanged, the residuum must be increased. The Lumsden case, decided by the House of Lords, July 20, 1914, showed that even when there was admitted to have been no increase in the value of the site, Increment Duty might nevertheless be payable. The Government promised to remedy this unforeseen defect, by means of a one-clause bill limiting the duty to cases in which the bare site had really increased in value.¹ The outbreak of the war temporarily shelved the proposal, but the promise has never been withdrawn, and meanwhile no duty is being assessed in such cases.

The published figures of the results of the valuation are very meagre. In the first place the number of hereditaments included in provisional valuations made in Great Britain up to 31st May, 1914, was only 7,952,111 out of a total of approximately 10,500,000. The area valued by the end of the fiscal year 1913-14 was 35,466,901 acres, which equals only 63% of the total area of Great Britain. The geographical distribution of this land is not indicated, nor its classification as agricultural or urban. Up to June 30, 1914, 273,720 valuations had been served in Scotland, being about two-thirds of the total number of hereditaments. The figures for Ireland are not published, except the number of provisional valuations made, which was stated by Mr. Lloyd George in the House, June 22, 1914, to be 204,000, while there remained 120,000 to be served in cities, towns and urban districts.

¹ See H. C. Debates, May 4, 1914, column 27. At first the Government had maintained that this was not a defect at all, and tried to justify the special taxation of profits obtained from selling land "for more than it is worth at the time" on the ground that it was a "special gain incident to the ownership of land" and therefore, apparently, unlike other commercial transactions. Cf. White Paper Instructions, 21 January, 1911, H. C. Paper 238 (1911); and the letter of Mr. Lloyd George and speech of Mr. Finlay quoted by Mr. Harold Cox in the *Edinburgh Review*, July, 1913, p. 248. Such a practice would entirely alter the principle of the increment duty, and have far-reaching consequences in discouraging building and raising rents.

The aggregate "Total Value" ¹ on March 31, 1914, excluding minerals ² was £2,953,412,359. This would indicate a total for Great Britain of about £4,000,000,000, if the same average per hereditament should be maintained. As a matter of fact the hereditaments valued have increased year by year in both area and value. The averages are as follows:—

Year		Area (Acres)	Total Value Per Acre (£)
On or before	March 31, 1911	0.7	246
In year ended	" 31, 1912	1.8	283
" " "	" 31, 1913	4.7	418
" " "	" 31, 1914	6.9 ³	459

There is a striking contrast between the averages for England and Wales and those for Scotland. While the average area in the former is 3.95 acres, and the average value £417, the average area in Scotland is 11.8 acres, but the value only £298. The figures for 1913-14, which exclude mineral valuations, are: England and Wales, 5.1 acres, £485; Scotland, 16.7 acres, £322. The value per acre seems to be five times as great in England as in Scotland. It would be interesting to know how much of this is due to the Scotch system of feu duties.

As regards minerals, up to 31st March, 1914, the area of land included in the provisional valuations was 579,417 acres, and the aggregate total value £5,077,979, of which 469,154 acres and £4,724,491 were in England and Wales, the rest in Scotland. The value per acre is approximately three times as great in the southern kingdom as it is in the northern one.

¹ Total Value is roughly market value, disregarding the capital value of perpetual rents.

² Fixed charges on land are also deducted.

³ Excluding mineral valuations.

On the whole the valuation department seems to have been fairly successful in attaining accuracy in all cases where there is no room for dispute as to what the law requires to be included in value. Most objections by owners are settled without a hearing before a referee; the total number of appeals against provisional valuations decided by referees up to March 31, 1914, was only 98, in respect of 420 hereditaments. In addition, 544 cases were withdrawn or otherwise adjusted, and 920 appeals remained unsettled on that date. The total number of hereditaments which had been the subject of notices of appeal was only $11/100$ ths of 1 % of the number of hereditaments valued. This proportion will be considerably increased by the recent decisions, especially as during the war the sixty days allowed for appeals is not deemed to run.

It is interesting to note that not all the appeals were, as one would expect, for an increase in assessable site value, in order to reduce as far as possible any future taxable increment. Some owners evidently feared that a direct tax on site values would soon be introduced, and therefore wished to be assessed on a low valuation.

But tho the valuers have been skilled and conscientious, their task has in many cases been too difficult for them. It is comparatively easy to agree on a value for any single item in the vast number of physical and legal factors which go to make up the market value of an estate, *if* the item to be valued can be defined. But it is a different matter to assign each one of these factors to the site or to improvements in such a way as to conform to any generally accepted canon of taxation.

Most of the difficulty has been in the valuation of agricultural land, which is not surprising, in view both of the confused provisions of the law and the inherent impossibility, for the vast majority of British farms, of

separating any real prairie value from the value added by the expenditure of labor and capital. In cases brought before the courts it has been decided that live hedges are improvements, but dykes and stone boundary walls, and sea walls not connected with buildings, are part of the site;¹ that the value of growing grass must be deducted to arrive at full site value, but the value of unexhausted manures and tillages, and the increased value due to the fact that land had been laid down to grass by the tenant, must not be deducted;² that in some cases private roads used in connection with buildings are deductible improvements, but other roads, not so used, or not deserving to be considered "structures," are not deductible. Similarly it seems that drains and water supply connected with houses must be considered as non-existent for the purpose of estimating site value, but land drains, culverts, dykes and ditches in the fields are existent; and that wood and wire fences about the homestead must in like manner be distinguished from wood and wire fences elsewhere on a farm.

The separate valuation of the site value or prairie value of agricultural land with any approach to accuracy is nearly impossible, since the cost of improvements—even when it can be ascertained, and a suitable allowance made for interest—bears no certain relation to the increase in value resulting from them, nor to the loss that would be occasioned by their removal.³ Moreover, the smaller the unit of valuation, the less will be the difference in its value occasioned by the presence or absence of buildings and other improvements, for a small farm may often be added to an adjoining estate

¹ *Executors of Waite v. Commissioners* ([1914] 3 K. B. 196).

² *Commissioners v. Smyth* (110 Times Law Reports, 819).

³ The British tax attempts to exempt the actual value of capital invested; the German tax exempts capital expenditure, whether profitable or not.

and not require much extra expenditure of capital, whereas a large farm must be fully equipped by itself. Any tax on pure land values would fall heaviest therefore on the smallest farms.

Besides being so extremely difficult, the separate valuation of agricultural property, except in the near vicinity of growing cities, is practically useless for the purpose of taxing the increment. Increment on such land is very uncommon, and when it occurs is very slow and uncertain, being usually due to changes in prices, not to the activities of the government or the increase in local population. Few persons have been so bold as to suggest taxing the farmers of England on their recovery from the agricultural depression, and in fact the act specifically exempts land with no other than agricultural value. Neither is the valuation of rural land of any use for the Undeveloped Land Duty; and as for the Reversion and Mineral Rights Duties, neither of them depends on the general valuation at all.

In addition to ascertaining the value of all land in the kingdom as on April 30, 1909, the Valuation Department must make a valuation on every occasion of a transfer by sale or gift or by a lease for more than fourteen years, or on the death of an owner. In the case of sales and leases the various values are deduced from the price or rent reserved. At the termination of a lease of over twenty-one years the value of the property must be calculated for the purpose of assessing Reversion Duty, both as it actually is and as it was at the beginning of the lease. Moreover the department values licensed properties for taxation and compensation under the Licensing Act, and occasionally does other work for other branches of the government.

It is almost needless to say that the cost of these valuations is very great. The total expenditure was

stated by Mr. Montagu, in the House of Commons, April 1, 1914, to have been £2,178,397 up to that date, and the estimate for the ensuing year was £843,614.¹ It is not likely that this estimate was too high, as the Government has never erred on the side of caution with respect to either the expenses or the receipts of the land values duties.

The cost of valuation in 1913-14, and the estimate for 1914-15 were made up as follows:—

DEPARTMENT	1913-14	1914-15
Inland Revenue	£669,500	£761,718
Valuation Office, Ireland	16,400	17,396
Office of Works (for office rent) ..	20,000	20,000
Rates on Government Buildings .	4,500	4,500
Stationery Office (for printing, etc.)	15,000	15,500
Post Office (for postage)	20,500	24,500
	<hr/>	<hr/>
	£745,900 ²	£843,614

Adding the last sum to the cost up to April, 1914, will give £3,022,011 as the cost to the end of March, 1915.

The number of officials employed in the Valuation Department on March 31, 1913, was 4151, their salaries amounting to £492,626 per annum.³ These figures had risen by January 1, 1914, to 4641 and £544,157 respectively. Of the employees at the latter date, 315, with salaries totalling £131,216, were classed as "permanent."⁴

The land values duties, tho expected to have beneficial social effects, were nevertheless introduced with the expectation of yielding a large revenue; and certainly nothing but a very large revenue could justify

¹ Mr. Montagu, April 6, 1914 (H. C. Debates, April 6, 1914, column 1636).

² Mr. Lloyd George's estimate had been only £680,000 (H. C. Debates, April 17, 1913, column 2125).

³ H. C. Debates, April 23, 1913, column 811.

⁴ H. C. Debates, February 17, 1914, column 782. It is expected that the number employed will be reduced by 1700 during the present fiscal year.

them as a fiscal measure, considering their cost not only to the administration but also to individual land-owners. The latter item has been estimated as high as a million pounds a year,¹ and is certainly a very considerable sum. What revenue has in fact resulted ?

II. THE FISCAL YIELD

(1) Let us first consider the Increment Value Duty. This from its nature would require some time to get into full running order, as it strikes only increment accruing after April 30, 1909. Nevertheless it was expected to produce a fair revenue in three or four years at the most. I append the budget estimates for each year, and the amount actually received:—

Year	1910-11	1911-12	1912-13	1913-14	1914-15
Budget estimate	£20,000	£50,000	£30,000	£20,000	£55,000 ²
Net receipt	127	6,127	16,981	34,199	
Total net receipt, 1910-1914: £57,434					

The Increment Duty is technically a stamp tax. Each year the particulars of some 150,000 to 200,000 transactions involving land must be sent in to be stamped. The number of units of valuation in respect of which "occasion" valuations were made, based on the information thus received, was 316,721 in the year 1913-14, besides 8391 in Ireland. The proportion of assessments of duty, as compared with the number of valuations, was very small, being 1.8 % in Scotland and 0.9 % in England and Wales; but the proportion for all valuations in Great Britain from 1910 to 1914 was only 0.57 %.

¹ Mr. E. Royds, in the House of Commons, June 20, 1912, and again June 24, 1914. Cf. various publications by the Land Union for the details of particular cases.

² Mr. Lloyd George, in House of Commons, May 14, 1914.

The number of assessments in 1913-14 was 3080, excluding minerals, and the average amount of duty assessed was in Scotland £47, in England and Wales £14. The average taxable increment in Great Britain was only £85, which, taken in connection with the figures in the preceding paragraph, shows that land is not such a profitable investment as the single-taxers would have us believe.¹ The average taxable increment discovered by all the valuations made for this purpose, 1910-14, was less than ten shillings. There were also in 1913-14, 61 assessments in respect of minerals, averaging £29 each.

The cost occasioned to landowners by this duty is considerable, whether or not they are called upon to pay anything to the state. The usual solicitor's fee is a guinea for getting the papers stamped, and this item alone probably exceeds the net receipt of the tax. In addition the delay in assessing the duty is very annoying, but possibly this will disappear when the original valuation is completed.

(2) The second of the land values taxes is the Reversion Duty, a tax of 10% on the benefit to a landlord derived from the expiration of a lease, of twenty-one years or more, of property (not merely the site) which has risen in value. This requires two valuations on each occasion, viz: the value as at the grant of the lease, ascertained by reference to the rent reserved and other payments made in consideration of the lease, and the value at the determination of the lease estimated in the usual manner. The two most important judicial decisions affecting this duty are that in the case of *Earl Fitzwilliam*,² which was to the effect that the value of a

¹ In Ireland, owing to the different system of land-registry, particulars are not required of every transfer. The proportion of assessments to the total number of transfers, excluding transfers on the occasion of a death, was about 1.7%; the average duty assessed about £10.

² 83 Law Journal Reports, 1076.

public-house license must be included in the value of the reversion; and that in the Marquis of Camden's case,¹ which decided that "payments made in consideration of the lease" were not only those paid to the lessor, but might also include sums expended on buildings or other improvements. It is of course obvious that a lessor who expects to receive a good building at the expiration of the lease will be willing to grant a corresponding reduction in the annual rent. These cases and others caused much delay in the collection of the duty, which was also hindered in its operation by the fact that the general land valuation was not completed. Its estimated and actual yields are as follows:—

Year	1910-11	1911-12	1912-13	1913-14	1914-15
Budget estimate	£90,000	£50,000	£125,000	£100,000	£130,000
Net receipt	257	22,621	47,974	80,435	
Total net receipt, 1910-1914: £151,287					

The number of accounts rendered for this duty, up to March 31, 1914, was 7443, plus 129 in Ireland. The number of accounts dealt with by the Valuation Department was 5224. The number of assessments to duty was 3562, plus 30 in Ireland, and the duty assessed £216,486 and £4609 respectively. The fact that nearly one-third remained unpaid was ascribed by the Commissioners to the decision in the Camden case.

The number of valuations for Reversion Duty made in the year ended 31st March, 1914, was 2405 in Great Britain and 24 in Ireland. The "aggregate value of benefit accruing to lessors" was £1,840,592 in the former and £18,407 in the latter.² The average benefit, disregarding minus quantities, from the beginning up to 31st March, 1914, was:—

¹ 30 Times Law Reports, 681.

² In some cases there was a loss, not a gain.

England and Wales	£914
Scotland	211
Ireland	500

The principle of the Reversion Duty seems to be justified in a country like England, where long leases of urban lands are so common; since in many cases the landlords receive in their reversions much greater values than they have either expected or deserved. It has been suggested, however, that taxing the lessor on his reversion should involve also freeing the lessee from his present burden of income tax on wasting assets,¹ for as the end of the lease approaches the lessee is now taxed on capital which is passing from his control. But I suspect that most shrewd business men run their business with the conditions of the lease in mind, and what they lose here they make up by paying less rent or spending less on repairs.

As the law now stands there are several ways in which this duty may be evaded. The simplest is by arranging for a series of twenty-year leases instead of one longer one. Another way is to demise the reversion, for a period of less than twenty-one years, to a third party who will then cede it back to the lessor. It is also possible to minimize the taxable benefit by stating in the lease that the expenditure of the tenant on repairs is part of the consideration.²

Other methods of evasion not so dependent on legal jugglery are to build more cheaply or to spend less on maintenance, so that the value of the reversion will be less, while a higher annual rent is paid. Or else a very long lease can be granted which will postpone the payment, and only in a very few cases will the increase in site value be great enough to offset depreciation and the

¹ J. C. Stamp, in *Economic Review*, July, 1911.

² Cf. article by W. J. L. Ambrose in *Law Quarterly Review*, April and July, 1914.

saving in interest. Probably this duty will have no effect on occupier's rent, as the total payments, actual and anticipated, by the builder will not be appreciably increased. There will be a slight tendency for landowners to demand more, and their demand may be effective, since by building for themselves they might escape the duty. But as few landowners would actually be willing or able to build, and as the duty is a future one and uncertain in amount, frequently being no more than a tax on windfall, little increase in ground rents need be anticipated on this account. The duty may, however, be expected to check leasehold enfranchisement, since it is payable on the purchase of a reversion by a head lessee, or on the purchase of a lease by the reversioner, and again when a sub-lease determines.

(3) The total area of undeveloped land included in valuations made up to March 31, 1914, was 942,115 acres, of which some 800,000 acres have been assessed to the Undeveloped Land Duty. Its assessable site value, before making allowances, was £182,612,826.¹ The bulk of the land liable to this duty has now been valued, tho with what precise conformity to law remains to be seen.

The Finance Act required that undeveloped land duty for any year be assessed within three years of its close. This has hitherto proved impossible, and in consequence a certain amount of duty has been lost for both 1909-10 and 1910-11. The exact figures cannot be given, because in any case there would have been a large exemption of land that was restricted by agreements in force April 30, 1909. The proportion of land so restricted has naturally declined, being 31 % in the year 1913-14. The assessment and collection of this duty have been

¹ In Ireland there were 26,410 acres, with a site value of £4,178,630.

suspended from the end of February, 1914, because of the judgment in *Commissioners v. Smyth*, which upset the practice of the department in making valuations of agricultural land.

The duty assessed before March 31, 1914, for each year was:—

Year	Great Britain	Ireland
1909-10	£126,472	£4,914
1910-11	174,714	5,148
1911-12	203,548	5,128
1912-13	219,270	5,109
1913-14	143,902	3,268

The first two years' figures are now complete.

The budget estimates and actual net receipts are as follows:—

	1910-11	1911-12	1912-13	1913-14	1914-15
Budget estimates	£280,000 ¹	£200,000	£100,000	£325,000 ²	£230,000 ³
Net receipt	2,351	28,947	97,852	274,916	
Total net receipt, 1910-1914: £404,066					

The object of this tax is to force unused land into the market, in the hope of reducing rents or improving housing accommodations. But there is little reason to believe that land capable of being used has been held out of the market to any significant extent. Estate agents and others who have practical experience with land are nearly unanimous in declaring that such is not the case. In fact there is good reason to believe that owners as a rule are only too anxious to sell, and that unless terrified by hostile legislation or threats of legislation builders are able and inclined to build even more than is required. Every year an allowance of seven or eight million pounds must be made from gross income assessable to income tax, in respect of empty property.

¹ Includes £140,000 arrears.

² Includes £150,000 arrears.

³ Includes £240,000 arrears.

It is difficult to believe that more than a very small proportion of this can be simply due to arbitrariness on the part of the owner. It is merely an indication that building is continually carried up to the margin of profit, and that it is not the cost of land that determines the profit; for obviously, after a building is erected, the cost of land cannot affect the tenant's rent. On the contrary it is the rent anticipated that determines the value of land. Wherever the value so determined is reasonably large, the landowner is under a constant pressure to sell, in order to realize his income. If he does not, his reasons are as likely to be good as bad. If he awaits a further rise in value, is it not to the public advantage that all land should be devoted to its best use? If he wishes to keep the land as a garden, that, too, frequently benefits the public. Moreover all the land fit to build on cannot be built on at once, for there would not be enough people to occupy the buildings.

This duty is equivalent to a tax of about 4% on the use of potential building land for any purpose other than those specifically exempted in the law. For the reasons just mentioned it cannot be avoided to any great extent by building, except perhaps by building cheap or temporary structures, and the main burden must fall on the owners. Since, however, it is not a permanent burden, it will not be capitalized in the usual manner of land taxes, altho it will temporarily reduce the selling price. And in fact it seems to have had that effect.

(4) The Mineral Rights Duty has nothing whatever to do with the land valuation. The Reversion Duty, tho not directly dependent on the Domesday valuation, is probably made easier to administer by it; and at all events it depends on the activity of the Valuation De-

partment. But the Mineral Rights Duty is simply an additional income tax of one shilling in the pound on the rental value of all rights to work minerals and of all mineral wayleaves. On this point Mr. Lloyd George stated in the House of Commons:¹ "I agree that the Mineral Rights Duty is not a subject of valuation. . . . It would not be fair to use that for the purpose of proving that land valuation costs less than the yield of the land taxes."

The Mineral Rights Duty is assessed on the proprietor or on the immediate lessor; the latter may make a proportionate deduction from the rent. It is not charged on common clay, earth, sand, chalk, limestone, or gravel. Minerals are not subject to Undeveloped Land Duty, nor to Reversion Duty so long as they are being worked. Increment Duty is much modified in its application to minerals, being based on the excess of actual rental value over 8% of the capital value of the minerals on April 30, 1909.

As a tax this duty is fairly satisfactory, both in principle and in results. There is much to be said in favor of the state's sharing in the profits of exploiting natural deposits, provided enough is left to stimulate private enterprise. The tax was easily administered, and soon reached a normal condition. The net receipt has been:—

1910-11	£508,290 ²
1911-12	436,193
1912-13	273,915 ³
1913-14	345,343

The estimate for 1914-15 was £310,000.

This duty resembles the others in one respect: it has suffered in the courts. The cases of the Duke of Beau-

¹ H. C. Debates, May 14, 1914, column 1354.

² Includes duty for 1909-10.

³ Reduction was due to (a) delay in assessment, (b) coal strike, (c) judicial decisions.

fort *v.* The Commissioners, and of the Marquess of Anglesey *v.* The Commissioners,¹ decided that Income Tax must be deducted before reckoning the Mineral Rights Duty. In consequence a large amount had to be repaid, and the revenue from this source suffered a permanent diminution of some 6%. The tax differs so greatly from the others in the group that it should be considered separately; and hereafter when I speak of the "land values duties," this one will not be included.

The total net receipt from the three duties dependent on valuation was £812,787 up to March 31, 1914;² the cost of valuation and collection was £2,178,397.

In extenuation of this amazing deficit it is maintained that the work of the Valuation Department has justified its existence by increasing the yield of the Death Duties. From April 1, 1910, to March 31, 1914, the official valuation of real property passing on death averaged 6.16% greater than the valuation brought in by the accounting parties.³ In Ireland, during the period from September 1, 1910, to March 31, 1914, the increase averaged 5.26% of the total value of real property passing on death.

But there are three reasons why the present Valuation Department cannot be given all the credit for this. (1) The department charged with collecting death duties has always succeeded in increasing the valuations of estates. To quote the fifty-seventh report of the Commissioners of Inland Revenue (p. 146): "Prior to

¹ [1913] 3 K. B., 48.

² Between April 1, 1914, and March 31, 1915, the amount paid into the treasury on account of the Land Value Duties, including the Mineral Rights Duty, was £412,000. During the previous year it was £715,000. No details are available for the separate duties, but it seems likely that the duty on minerals furnished the greater part of the amount. The estimate for 1915-16 is £350,000.

³ This figure is really too favorable, as the early valuations included selected properties of which the department had notice in 1909-10, which yielded a more than average increase. Cf. the fifty-seventh report, p. 146. The proportion in 1913-14 was 5.18%, in Ireland 5.26%.

the introduction of expert valuers *in the spring of 1909*,¹ the increase obtained by the then existing organization was an average of 3% upon the whole real property passing." (2) The department was so reorganized in the spring of 1909, a whole year before the passing of the Finance Act, that at a trifling cost it performed the necessary valuations nearly as well as now. The department thus reorganized was described by Mr. Lloyd George in the House of Commons, October 29, 1909, as being "efficient"; and the report of the Commissioners of Inland Revenue for 1909-10 attributes to it a "substantial increase" in the yield of the duties.² (3) The land values duties, by reducing the value of land, especially in cities, have diminished the value of property passing on death and consequently the yield of the death duties. The extent of this effect cannot be ascertained, but that it is so seems indisputable, both on the grounds of theory and from the testimony of landowners. Even if land values were previously over-estimated, as was frequently the case, they at least paid higher death duties on that account.

However the apologists for the Valuation Department do not attribute to it an increase of more than £900,000 in the yield of the death duties up to March 31, 1914, and £325,000 for the ensuing year. Adding this to the land value duties, but excluding of course the Mineral Rights Duty, we still find a deficit of £665,000 on April 1, 1914, or an estimated deficit of £770,000 on the same date in the present year. As far as can be estimated from the weekly reports of the Treasury, the deficit

¹ *Italics my own.*

² Amounting in one week to over £100,000. Cf. House of Commons Debates, October 29, 1909. In fact, as far as proportions go the increase was apparently greater under this arrangement than it has been since, for it was only 6.16% between April 1, 1910 and March 31, 1914; but Mr. Montagu stated in the Times, May 7, 1914, that from May, 1909, to March 31, 1914, the average increase was 6.31%, of which he admitted 3% would have been obtained anyway.

must be increased some £200,000 because of the falling off in the revenue from the land value duties since the beginning of the war.

The taxes brought in by the other activities of the Valuation Department are hardly worth mentioning. It makes valuations for the stamp duty on property passing by gifts *inter vivos*, but the revenue derived in consequence cannot be stated and is certainly small.

There has been some talk of using the site values obtained as the basis of taxes or rates on the single tax principle. Besides their inherent inaccuracies, and those due to the failure of many owners to claim their full legal rights, these values are now six years out of date, and to use them for that purpose would be extremely unfair.

It is said also that the costs of the valuation must be regarded as a capital expenditure, and that deficits in the first few years will not prevent its being profitable in the long run. There is some truth in this argument, but it makes little difference, for the valuation once established is not perpetual. A revaluation is required every five years for the Undeveloped Land Duty;¹ and for the other two duties property must be revalued every time it is transferred, or every fifteen years if owned by a corporation. It is safe to assert that after fifteen years the worth of the present valuation from a fiscal point of view will be very slight, and that after thirty years it will have no usefulness at all except for historical purposes. And in any case interest should be charged on the cost, if it is a capital expenditure. Taking the most reasonable estimate of the net cost, nearly £130,000 a year will be required to pay it off in twenty-five years with interest at 4%. The annual yield of the duties

¹ No attempt has been made to carry out the first of these valuations, which was due in 1914.

cannot be expected to average more than £1,000,000 during the next twenty-five years, especially as the war will have a bad effect on land values. The costs of administration may run as high as £250,000, and can hardly be less than £150,000 per annum.¹ Consequently in the period from 1910 to 1940 the cost of collecting these duties will average from one-fourth to one-third of their total amount. The average cost of all duties collected by the Inland Revenue Department fluctuates from year to year between 2 and 3½ %.

So far only the cost to the government has been considered. There is also a great loss to landowners, whether taxable or not. Transactions are delayed or prevented by the fact that the amount of duty payable on the property is unknown. Legal expenses are greatly increased, and owners also often find it necessary to employ expert valuers to test or oppose the official valuation. In addition to these actual costs there is the dread of more to come.

III. SOME CONCLUSIONS

In the opinion of an overwhelming majority of builders and dealers in land, the land values duties are largely responsible for the remarkable decline in the number of new buildings annually erected. They are not the sole cause, for there is reason to believe that building was carried to excess in the years preceding 1907, and a reaction would normally be expected. The proponents of the duties declared, however, that they would stimulate building, by reducing the price of land. There can be no doubt that land values have fallen, and mortgages and other forms of investment in land have

¹ Cf. the salaries of the permanent officials, p. 803, above. It is impossible to get an official estimate on this point.

lost their popularity since the famous budget was introduced. Whether or not the values set on estates by the government valuers were too low, they certainly were the cause of much calling-in of mortgages, and builders have ever since had much more difficulty in obtaining capital. At the same time they require higher profits to offset the increased taxes and risks. The result is shown by the following table, compiled from the Inland Revenue reports on Inhabited House Duty.

ANNUAL INCREASE IN THE NUMBER OF PREMISES IN GREAT
BRITAIN

Year Ended March 31	"Separate Dwellings" and Houses of Less than £20 Annual Value	All Premises, Except Farm Buildings and Certain Property of Corporations	
1903	88,344	128,701	
1904	41,549	161,586	
1905	101,205	149,594	
1906	112,838	169,042	
1907	80,471	128,998	
1908	79,950	115,990	
1909	73,260	112,222	
1910	87,181	114,420	Annual Average,
1911	10,651	48,959	
1912	80,165	114,858	
1913	46,250	73,760	

Part of the slump shown in the first column for 1911 may be attributed to the general revaluation of that year, which raised some houses hitherto exempt into the tax-paying class. But the figures in the second column cannot be so explained, as the total number of premises could not be perceptibly reduced by a revaluation, and the last previous valuation, in 1904, had no such effect. According to the census of 1911, the number of houses uninhabited, or being built, in proportion to the number of inhabited houses, was the smallest since 1861.

It would seem that the new taxes, instead of increasing housing accommodation, have reduced it. It is probable that, unless the single tax agitation keeps on, this initial effect will wear away, if indeed it has not already done so. Increased wages and costs of material are certainly to blame for much of the cessation of building, and even in spite of these obstacles there was a revival in the first half of last year.¹ A change of government would do much to reassure builders, even if the duties were not repealed. But no such change is probable in the near future, and the war upsets all prophecies.²

The final incidence of these duties can never be objectively demonstrated. Economic reasoning leads to the conclusion that the undeveloped land duty will probably cause a good deal of hasty and ill-planned construction, such as we are so familiar with in America; but that in the main it will fall, or has fallen, on the owners at the time being (in 1909), by reducing the capital value of the land. After all it is only equivalent to a general property tax rate of two dollars in the thousand.

The Increment Duty and Reversion Duty, in so far as they fall on unforeseen and unearned increments, will be borne by the recipients of those increments; in so far as the increment is anticipated the tax will also be anticipated.³ There is also some danger that land developers working on a large scale may be called on to pay increment duty on part of their property, when the scheme as a whole is a failure; but this could be provided against by amending the law.

¹ Cf. Board of Trade Labour Gazette for a quarterly report of the value of building plans passed in ninety urban districts.

² The present coalition, being for war purposes only, has no effect on the Land Values Duties.

³ Cf. J. C. Stamp, "The Incidence of Increment Duties," in *Economic Journal*, June, 1913.

It must not be hastily assumed that the failure, so far, of the new British system of land taxes proves that an increment duty is essentially impracticable. The German local increment taxes are proof to the contrary. The chief reasons which explain the lack of success of Mr. Lloyd George's scheme are the following:—

1. The complicated system of land tenure in Great Britain.
2. The fact that hitherto annual value and not capital value had been the basis of taxation, necessitating a valuation *de novo*.
3. The inclusion of the whole country in the valuation which greatly increased the cost; altho practically no revenue can be expected outside of urban districts.
4. The great expense of administering the tax as a national one instead of locally.
5. Errors and omissions in the law.

The first two do not concern us in the United States. The importance of the third and fourth will vary from state to state, and will be much modified in those regions where the existing valuations are reasonably accurate. With regard to the fifth we should at least have the benefit of British experience.

In my opinion the experiment of an increment tax would be well worth trying, if it could be kept separate from the dangerous and delusive proposals for taxes on site values and the other varieties of Single Tax. A reversion duty might be useful in some parts of the country in order to reach one kind of increment, but we need no more taxation of undeveloped land than we already have under the general property tax. The only valid objection to such a reform would rest on its cost in relation to the income derived from it, a problem which

varies from country to country, and can be finally solved only by experiment. If this objection can be proved untenable, there is no theory of justice in taxation, so far as I am aware, that does not logically require unearned increment to be specially taxed.¹

RUFUS S. TUCKER.

HARVARD UNIVERSITY.

¹ Besides the references in the preceding notes, mention should be made of an article by J. C. Stamp in Conrad's *Jahrbücher* for 1912, "Ueber die Reform der Grundsteuer in Grossbritannien." The most detailed official account of the conduct of the valuation will be found in the fifty-fourth report of the Commissioners of Inland Revenue [Cd. 5833 (1911)].

REVIEW

ELY'S PROPERTY AND CONTRACT¹

WE are indebted to Professor Ely for an excellent book. It ought to prove interesting and instructive to economists and lawyers alike; to economists because it contains a careful and accurate account of the leading decisions of the courts with reference to property and contract that bear on economic discussion; to lawyers because legal decisions are treated in a broader way than as mere precedents, and with reference to the philosophical reasons that underlie the decided cases. The book is to be particularly commended to lawyers because most of them are content with the philosophy of Blackstone and attend only to those changes since Blackstone's day that appear in the decisions of the courts, where the fundamental ideas are rather taken for granted than philosophically discussed. If Professor Ely's two volumes were but printed in one, with a larger page, bound in law sheep or buckram, and with the citations of cases at the foot of the page instead of at the end of the chapters, the book might pass for a law book. There is the familiar table of cases at the beginning, and the list is long enough to include the important cases without the common padding that enables publishers to say, — as if that were a merit, — that there are cited so many thousand more cases than have been cited before. As far as I have been able to test the list, it includes those cases that have really contributed to the development of the subject, and Professor Ely cites them with an accuracy unusual in a layman. In an appendix Professor Orth has made a

¹ *Property and Contract in their Relation to the Distribution of Wealth*, by Richard T. Ely, Ph. D., LL. D., Professor of Political Economy in the University of Wisconsin, 2 vols. The Macmillan Company. New York.

useful collection and analysis of illustrative cases, which he modestly hopes may be helpful to readers who desire to familiarize themselves with the legal aspects and difficulties involved.

Professor Ely's style is clear and perspicuous, and his vocabulary for the most part untechnical. Economists ought to be able to understand his statement of the law, and lawyers his statement of economic theory. A study of the book ought to help bring together two classes who often have the same problems to deal with under different aspects, and often fail to understand each other; the lawyers looking upon the economists as radical, the economists looking upon the lawyers as unprogressive. In fact, as Professor Ely shows, the "socialization of the law" has been brought about chiefly by decisions of the courts; and as this book itself demonstrates, the point of view of the more thoughtful economists is what would be considered, at least in these days, if not conservative, certainly far from radical.

It would be an error, however, to give the impression that the book is essentially either a law book or a text book. It really deals in a philosophical way with the concepts of property and contract in their relation to the distribution of wealth. Professor Ely necessarily draws upon the store of judicial decisions, especially those under the due process clause of the Fourteenth Amendment; but he draws largely also on philosophical writers from Lord Bacon down, nay from the author of Deuteronomy to the present time. He has been influenced especially, as he frankly acknowledges, by the Germans, to whom he frequently refers, especially by Conrad, Wagner, and, above all, Knies.

Some of the salient lines of thought are as follows. In both production and distribution, man himself is the element of chief significance, since wealth is the product of man's labor, and the product varies with man's efficiency and willingness to work, which may depend largely upon the distribution of the product. Society itself is limited in what it can do in changing the laws of distribution, by the reaction of such changes in distribution on production considered with

respect to quantities and qualities of wealth produced and to the direction of production. Associations like the Shakers completely regulate distribution, but their product is so limited that the average income is not large. The Amana Society of Iowa, the most successful of existing communistic societies, with a great deal of valuable Iowa land, affords comfort to all, but of a meagre sort, scarcely compatible with a high civilization.

Distribution of wealth at a given time depends upon the socio-economic order that then exists. This, altho the chief thing to be considered, is not the only one; others are important, — industrial technique, bounty of the physical environment, distribution of individual abilities and aptitudes. In the existing socio-economic order there are five fundamental institutions of first rank: (1) Property, public and private; (2) inheritance; (3) contract and its conditions; (4) vested rights; (5) personal conditions. In addition there are five fundamental forces of the second rank: (1) custom; (2) competition; (3) monopoly; (4) authority; (5) benevolence. It is these fundamental institutions and forces that radical socio-economic reformers desire to change. "It must be admitted," says Professor Ely, "that if the changes they desire are to be recommended, the socialists are proceeding in the right way to bring about these changes. They are attacking the fundamentals, and no doubt if the fundamentals could be changed they could change without limit the distribution of wealth; but, on the other hand, their changes might bring about (a) disastrous results as to production, (b) other evil social consequences." I quote the exact language, because the whole work is an effort to combat the proposals of the radical socio-economic reformers in the interest of what the author thinks, and surely with reason, a truly conservative view; an effort all the more effective because intelligent and fair minded.

The first fundamental institution is private property. Private property is a complex thing, — a bundle of rights; an idea which is coming more and more to be recognized, and credit for which is given to a decision of the Supreme Court

of New Hampshire in 1872. The tendency is toward an increasing public interest in private property, but there is no tendency toward an abrogation of the right. To abolish private ownership in land would destroy security and shake the foundations of society, and while the author approves our American system of taxation on the full selling value of land, — which approximates some features of the single tax, — he recognizes that it does result in those evils which Marshall thinks would result from a property tax on site values exclusively; it adds to the value of some properties at the expense of others, and results in hasty and inappropriate building. No one who has seen the class of buildings called “tax-payers” will fail to appreciate the soundness of this conclusion.

Reference is made to the great Vanderbilt fortune, built on the private ownership of railroad systems, and to the great fortune of the family of Thurn and Taxis, built on the century-long control of the postal system in Germany. The discrimination of the author in his statements is well illustrated by his calling attention to the fact that while those fortunes would not have been possible if the American railroads and the German postal systems had been public property from the beginning, there is no necessary inference that the fortunes thus acquired are or are not a good thing for society. Another illustration of his care is to be found in repeated references to New Zealand, which to the ardent reformer is the place where all good things are to be found, just as the poet thought that perfect peoples and perfect kings might dwell in Mercury, Venus or Mars. Professor Ely more than once expresses his doubt of the success of the New Zealand legislation. And in general he remarks: “The enthusiastic reformer must be cautious in drawing practical conclusions. It is at least conceivable that public waste and civic demoralization may result from the suggested extension of the sphere of public action and narrowing of the field of private activity. Also, it must be considered what use would be made by organized political society (the state in the generic sense) of the potential gains of public industry. Would a

better use be made of wealth as a whole than is made now ? ”

The same thought recurs in dealing with industrial liberty. Political restrictions, it is pointed out, often mean economic freedom. The important question “so often overlooked by the socialists and their opponents is this: will authority be more wisely exercised when seated in government or when seated in private property ? Will authority be more wisely exercised when it is political in nature or when it is economic in nature ? . . . And another question is: will authority be more wisely exercised when it has a mixed source, partly in economic and partly in political institutions ? ”

Private property, then, is an institution lying at the foundation of our present social order, and not to be abrogated. Private property is the exclusive right of a private person to control an economic good; it is exclusive in its nature, but not absolute; it is a bundle of rights. The Roman Law defines it as the right of using and consuming in so far as the reason of the law permits. The Prussian code of Frederick the Great defines a proprietor as “that one who is competent directly himself, or indirectly through an agent, to exercise control over the substance of a thing or of a right to the exclusion of others,” but his rights are subject to the qualifications that “no one may misuse his property to injure others.” The Napoleonic code says: “Property is the right of using things and of controlling them in the most absolute manner, provided that one does not make a use of them prohibited by the laws or ordinances.” The new German code says: “a proprietor has a right to use a thing as he sees fit, to the exclusion of others, in so far as there are no limitations which come through law or through the rights of third persons.” All these definitions, under different systems of jurisprudence at widely separate points of time, recognize the qualification of the right of private property. Our system recognizes it also. In some things, notably wild animals (including even dogs, as the United States Supreme Court has held), air, light and water, property is not full and complete; but even the right of property in things where

it is most full and complete is qualified by the state's right of taxation, of eminent domain, and the police power, three public rights corresponding to the qualification "in so far as the reason of the law permits" of the civilians. Property does not carry with it the right of misuse; yet waste and misuse are tolerated. How can the conflict be reconciled? "The fact is just this: the misuse or the abuse of things is not a part of the right of property when we reduce property to its essence, but it is something which may exist because no way can be devised to prevent it without interfering with the institution of property. It is difficult to frame laws which will prevent a misuse without at the same time preventing a proper use." We wish the draftsmen of some of our recent legislation who so cheerfully undertake to remake our law without considering its history, its connection with legal principles, or its underlying reason, might appreciate the difficulty of which Professor Ely speaks.

Property has its social side, as represented by the right of taxation, the right of eminent domain, the right to exercise the police power, the right to control transfers, especially by way of inheritance, the right to exempt certain property from execution and distress in order that a man may not be deprived of the means of doing his part in the work of the world by working at his trade or calling. An absolute right of property, free from these restrictions for the benefit of organized society, would, as Ihering says, result in the dissolution of society.

It is these considerations that sustain one of the main theses of the book, that private property is established and maintained for social purposes. It becomes more intensive and less extensive, or more extensive and less intensive, according to the state of development of organized society at the time. In early days the ownership of land in common seems to have been for the general interest. Later, commons were enclosed and became private property because a more intensive cultivation was for the general interest. Professor Ely doubts whether the legislation giving the Indians their land in severalty instead of allowing it to be held in common

by the tribe, is for the advantage of the Indians themselves in their existing state of development. Property in severalty, he says, is undoubtedly in general better for those who have attained the highest stage of economic civilization. It leads to greater production, nor does it clearly lead to a worse distribution, altho unquestionably to a far more unequal one.

Private property is developing along five lines: (1) an increase in the mass of free goods; (2) a restriction of the extent of private property and a corresponding extension of public property; (3) a development of the social side of private property; (4) an extension of private property along certain lines; development of rights akin to private property; (5) changes in the modes of acquisition of private property.

Private property yields the best results when the social benefits of private property accrue (a) largely spontaneously, as in the case of agricultural land, where in the main there is an identity between the interest of the farmer and the interests of the general public; (b) when occasionally they are secured with ease by slight applications of force, as in the use of private forests in Germany as pleasure grounds, or the rights of way and paths across fields in England; (c) when the social benefits of private property are secured as the result of single public acts occurring at considerable intervals, as in the case of taxation; (d) when in more or less frequent cases a continuous and considerable application of force may be needed to bring its management up to a socially established ethical level; the author is here thinking chiefly of labor legislation.

Enough has been quoted to show Professor Ely's point of view. The reader must be left to fill in the argument from the book itself. It is not surprising to find that the author looks forward hopefully to the universalization of private property, very much as education has been universalized, by means of savings banks, insurance, safe investments in well-guarded corporations, assistance in the purchase of land; and to the socialization of private property by throwing open to public use private possessions, such as the Thiergarten in

Berlin and the royal galleries in Munich (a sphere in which Europe is in advance of the United States), and to the increase in the feeling of social obligation to contribute to the public good (a sphere in which Americans are probably ahead of Europeans). He also looks forward to a considerable transformation of private property into public property by means of the power of eminent domain, with full compensation even in the case of corporations with watered stock. He takes a broader view of the powers of the state to effect this transformation than would be commonly taken by lawyers. But public necessity and public utility are relative and ill-defined terms, and we are probably destined to see a broadening of our ideas in this respect, as we have seen it in the extension of the police power. As Professor Ely says, even a railway is not strictly speaking a public necessity, however desirable it may be; and the well-established right to take private property for railways is destined to be applied in many other ways. No one can read recent decisions of the United States Supreme Court without seeing how elastic the right of eminent domain is, and the possibility of its unlimited development.

The true theory of property, he says, is the general welfare theory. The words "point to the permanent basis of property in social utility and they indicate the nature of its evolution. . . . Property exists because it promotes the general welfare, and by the general welfare its development is directed. . . . It is a theory of social evolution, because as society is in a flux, property can accomplish its end only by a corresponding evolution. It is a legal theory, because property in itself implies law; and it is only through law that possession ripens into property. At the same time the words used to describe the theory show that law cannot be arbitrary."

Space lacks for anything but the briefest reference to Professor Ely's commendation of the work of American courts, a commendation all the more pleasing because unexpected; his condemnation of the recall of judges and the recall of decisions; and his insistence on security of tenure

and adequate pay. After these declarations it is not surprising that he praises the Federal Constitution and its flexibility, while commending also as one of its strong points that it prevents wobbling back and forth from one thing to another. "We have then every element we need already, either in our constitutional systems or easily placed there when once all our law-making, law-executing and law-interpreting bodies move out of the past into the light of the twentieth century." I cannot, however, look with approval upon his suggestion that adverse decisions can be overruled by the creation of new judges, as the opposition of the House of Lords has been overruled by the creation of new peers. It is far better to wait until public opinion is finally settled on a disputed question, and time makes it possible to determine whether proposed changes are real reforms or not.

The book ought to have many readers, and all would find it suggestive and helpful. They will look forward with much expectation to the coming book by the author on landed property and the rent of land.

FRANCIS J. SWAYZE.

NEWARK, N. J.

NOTES AND MEMORANDA

THE EFFECTS OF INCREMENT TAXES UPON BUILDING OPERATIONS

A NUMBER of American cities have recently adopted special land taxes in the hope of gaining such social ends as increased building activity, lower rents and diminished speculation. Pittsburgh and Scranton, Pennsylvania, have reduced the assessed value of buildings from one hundred to ninety per cent, the first of a series of such reductions by which it is proposed to cut the tax on buildings to one-half the tax on land. Reading, Pennsylvania, has asked for power to make similar reductions. Pueblo, Colorado, has stricken fifty per cent of the building value from the assessment base and is committed to a plan eliminating this year all except one per cent of the value of buildings. Houston, Texas, after three years of experience with a plan under which buildings have been taxed at a figure at first one-third and later one-fourth of their value, is now forced by legal action to seek constitutional authority for the plan which before rested merely upon administrative audacity. In the city of New York the sentiment in favor of special land taxes has grown to such proportions as to make the question something of a political issue. One municipal commission has already reported in favor of a special tax on the "unearned increment."¹ Another commission, recently appointed, has been asked to give its recommendation on the question of reducing the tax on buildings and now has the matter under consideration.²

¹ The Commission on New Sources of City Revenue, appointed by Mayor Gaynor in 1911. See this Journal, vol. xxvii, p. 539 (May, 1913).

² The Committee on Taxation of the City of New York, appointed by Mayor Mitchel in 1914.

Under these circumstances, a contribution to the theory of land taxation such as that made by Professor B. M. Anderson, Jr., of Harvard University, is welcome. In a recent article,¹ he has attacked the commonly accepted argument that " ' the unearned increment ' in land values is an incentive to building: that buildings which are expected to depreciate through obsolescence are often put on land that is rising in value in the expectation that the appreciation of the land will offset the depreciation in the building; and that consequently a tax which destroys the increment in land values would check building operations, instead of encouraging them as the single taxers contend." ² He flatly denies " that the amount of the increment in land value has any connection whatever with the amount of depreciation in building that is voluntarily suffered." ³ He concludes " that the increment . . . should have any influence on the decision to build is, on the face of it, impossible " and " that an extra tax on land for the purpose of encouraging building might be similarly barren of results." ⁴

Here is apparently destroyed at a single blow one of the best arguments against the single tax and at the same time one of the pet arguments urged in favor of it.

The article attracted immediate attention. A few weeks after publication it was quoted in the single tax session of the Conference of the National Tax Association to refute the claims of the single taxers that the exemption of improvements stimulates building.⁵ No one, however, seems to have

¹ " ' Unearned Increments, ' Land Taxes, and the Building Trade, " in this Journal' vol. xviii, August, 1914, pp. 811-814.

² Loc. cit., p. 811.

³ Ibid., p. 812.

⁴ Ibid., p. 813.

⁵ Professor Warren M. Persons: " I would like to call your attention to an article that appeared in the last number of the Quarterly Journal of Economics by Mr. B. M. Anderson of Harvard, who takes up the point as to whether the single tax will bring about improvements, and in a word his position is that it will have little effect one way or the other, and his reason is this, that there will be no change in the basis of taxation whether the man builds or not. The question as to whether he should build is a financial one, and he will build if he can bring the earning power of the land into operation, and with that earning power, the earning power of the building. If the combination is such as to give him a return large enough to induce him to make his investment there, rather than elsewhere, he will make the investment there, and the proposition will be the same under the single tax as it is at present as the tax will be a constant factor whether the land is built upon or not. The economic needs of the community is the thing which will determine whether he will build or not." Proceedings of the Eighth Annual Conference, National Tax Association, p. 457.

made a serious attempt to criticize Professor Anderson's argument — a remarkable fact in view of its iconoclastic character. For it has been customary to hear from the lips of our leading economists the argument that the "unearned increment" is an incentive to early building and to the early settlement of agricultural land. It is stated in very definite form by Professor Alvin Johnson, in his "Case Against the Single Tax."¹ Moreover, in the city of New York, at least, real estate men testify that it has been the general policy in financing building operations "to assume that there will be year by year a steady increase in the value of the land which will more than offset any depreciation in the improvements."² An argument which runs counter to the statements of eminent scientists and the established policy of practical business men certainly deserves the most careful consideration. It is the purpose of this paper to criticize some aspects of Professor Anderson's argument and to suggest certain circumstances which seem to justify modifications of his general conclusions.

The case is argued by means of an arithmetical illustration, admirable in its clearness and compactness.

Assume a man who has a piece of land worth \$50,000 and free capital of \$30,000. Assume an annual increment to the land value of \$2000. The owner has two options: he may leave the land idle and invest his \$30,000 at, say, six per cent in industry, in which case his return is \$3800 per year (counting the increment); or, he may apply his \$30,000 to the land by building upon it, and so unlock the potentialities of the land, causing it to yield, say, four per cent, or \$2000, making his total yearly return \$5800 (again counting the increment). It is clear that in this latter case the owner gains if the depreciation of the building is anything short of \$2000 per year. But the \$2000 which offsets the depreciation is not the increment to the land value, but the extra \$2000 that comes from

¹ Atlantic Monthly, vol. cxlii, pp. 32-36 (January, 1914).

² Interview with Mr. Alfred E. Marling, of Horace S. Ely and Company, member of the Advisory Council of Real Estate Interests and Chairman of the Mayor's Committee on Taxation in the city of New York. New York Times, January 24, 1915. This policy, it may be stated, is at the present time in disrepute, because of the recent dulness in the real estate market and because of various "drastic demands" made upon real estate owners, including that of "excessive taxation." Cf. interview with Mr. Albert G. Milbank, *ibid.* An attempt is being made to change the plan of financing building operations so as to provide for annual or semi-annual payments by the borrower on account of the principal of the indebtedness.

putting the land to use. Varying the size of the increment leaves the situation unchanged. Assume an increment of \$12,000 per year: he can still tolerate only \$2000 per year depreciation. By using his first option, he would in that case have an annual gain of \$13,800; by using his second option, an annual gain of only \$15,800, still only \$2000 to spare. Assume no increment at all: he has still the same \$2000 margin for depreciation. The increment is wholly irrelevant. The significant factor is the possible addition to his income from releasing the earning power of the land.¹

Professor Anderson rests his case upon this example. His argument stands or falls by the validity of this illustration. The questions, therefore, to be considered are: Is the illustration typical? Does it fairly represent the situation? Are all the significant factors taken into consideration?

In the first place it will be observed that the annual return from the land is placed at \$2000 per year and kept at that figure year after year in spite of the fact that the capital value of the land is made to increase steadily. Is this condition typical? Is it usual for the annual return to remain constant while the capital value of the land increases? If increases or decreases due to changes in the general interest rate be disregarded, the only cause for an increased capital value is the prospect of an increased income. An increase in the selling value of a piece of land implies an improved income. The connection is direct and causal; and yet it is entirely ignored in the illustration. The example is therefore abnormal in this respect. A piece of land whose annual rentals, present or prospective, are not increasing but whose selling value is nevertheless mounting upward is an economic monstrosity.

This does not mean that Professor Anderson's statements are incorrect. Assuming the validity of his contention that "the significant factor is . . . the earning power of the land," the point should be recognized that this "earning power" will normally be an increasing sum under the condition of increasing capital value assumed in the illustration. To the individual, confronted with the option of building or not building, what Professor Anderson calls the increment, which will accrue whether he builds or not, may be "wholly

¹ Anderson, *loc. cit.*, pp. 812-813.

irrelevant." The amount which he will forego in the annual land rent which he might collect, did he build, is, as Professor Anderson points out, the incentive to building and the margin for depreciation. What Professor Anderson does not point out is that this annual land rent — this incentive and margin — is expanding. This expanding earning power means an increasing capacity to carry taxes or to endure obsolescence. It is normally the basis and cause for increasing selling prices of land. It is responsible for the "unearned increment" in the sense in which the term is used in Professor Anderson's article.

Whether the statements made in the article are correct seems, indeed, to depend somewhat upon the definition of the word "increment." The ordinary dictionary meaning is "increase" or "augmentation." It has been very loosely used in economic discussions to indicate increases of various sorts. In the case of land it has commonly been used to describe augmentations of the capital or selling value. Examples are not lacking, however, of the use of the term to describe augmentations of the annual value or yield of the land.¹ The term should, of course, be used to describe only one thing. The question of terminology need not be further discussed here, but to avoid confusion increases in capital value will hereafter be described as "capital increments" and increases in annual rentals as "yield increments." Professor Anderson seems to use the term to describe such "capital increments" as can be realized without improving the land or subjecting the individual to any expense. If "yield increments" are true increments, the statements as to the effects of increment taxes must be modified.

The first criticism, then, is that the arithmetical example is not typical in that it does not recognize an increasing "yield increment" as a basis for the "capital increment."

In the second place it is believed that the example ignores a practical factor of considerable significance. It is assumed that the landowner may, without expense, hold his land out of

¹ Mr. C. B. Fillebrown uses it in both senses in the same pamphlet, *A 1916 Single Tax Catechism*, pp. 17, 18.

use and realize upon his "capital increment." It is assumed that the only burden that he is called upon to bear is the sacrifice of the annual income from the land which he might receive if he constructed a building. But under actual conditions his burden is not merely this negative sacrifice: it includes a positive expenditure, for his ordinary annual taxes must be paid if he is not to be deprived of his land and of all prospects for future incomes, large or small. In Professor Anderson's illustration, the owner has \$30,000 of free capital, which, invested in industry, yields him \$1800 a year. It is clear that he could pay indefinitely any tax which did not absorb more than this income. But any sum paid for taxes will reduce the sum realized under the first option where the capital is put into industry and the land allowed to lie idle.

The individual of the illustration, however, with his \$30,000 free capital is in a condition of opulence compared with that of many owners of vacant land. Often the free capital is entirely absent, the individuals borrowing the funds when the land is "ripe" for building. In such cases, from what source will the annual taxes come? It may be said that if a man's land has a capital value he can borrow upon its security to pay taxes and that such a course will pay under these circumstances. But in many places unimproved land is not acceptable security for loans. Money can often be secured to improve a piece of property when it cannot be obtained to "carry" a piece of vacant land. This is the case in western Canada. The prohibition in force until recently against the use of land as security for national bank loans may be explained in part on the ground of our distrust of such security. In the city of New York the savings institutions, life insurance companies and trust companies will not make loans upon the security of unimproved real estate, and if a landowner desires an accommodation he must find some private individual who is willing to join with him as a preferred partner in his speculation. He must pay a higher interest rate and give a wider margin of security than if the land were improved.¹

¹ The writer is indebted to Mr. Walter Lindner, of the Title Guarantee and Trust Company, for this information.

Under these conditions it will be seen that an individual owning vacant land and confronted with the problem of whether he shall build or not must always consider the cost of carrying the land until he can realize on the "capital increment." He must compare the total taxes plus interest with the "capital increment" to be realized. Where loans are not made upon vacant land and where the owner is without cash resources — a very common situation at present in western Canada — to build may be the only way to meet tax bills. He can borrow money to build and his property will then, perhaps, bring in enough money to pay interest and taxes. In this way his title to his "capital increment" may not be lost to him. Under such circumstances it may be profitable for a man to build even when his rentals are insufficient to pay the entire interest and replacement charges on the building, not to speak of a return upon the land. If he can secure enough from his rentals to pay the current bills of interest and taxes he will build, provided that the "capital increment" finally to be realized promises to be great enough to care for the other expenses and leave something beside.¹ In other words there are circumstances where part of the "capital increment" is sacrificed to save the remainder and the process involves building. If the tax so impairs the "capital increment" that it is not worth saving, the means of salvation will not be adopted — that is, fewer buildings will be built.

It is admitted, of course, that if funds may be borrowed freely upon the security of unimproved land, the above argument does not hold. There is, however, always a difference of opinion between the money lender and the landowner as to the value of the land or, in other words, as to the certainty and amount of the future yields from the land. If this were not true the money lender would usually become landowner and take his return in rentals and increments rather than in interest and repayments.

It may be that there is much more than merely this involved in the struggle to preserve titles to increments. Not

¹ In some places in western Canada, South Vancouver, for example, buildings are exempt from taxation and in addition a special tax is levied against unoccupied land. Here one can actually reduce his tax burden by building.

only are the city builders affected by the speculative opportunities — not only do they build in order to be able to meet current charges hoping to reimburse themselves for present losses from increased land rentals or selling values later — but farmers also are similarly affected. It has many times been pointed out that part of the middle-western farmer's return has come from the increased value of his farm. The point has not been emphasized, however, that to preserve his title to that increased value, it has been necessary for him to sacrifice some of it beforehand. To benefit by the increment it was necessary for the settler to do more than to sit with folded hands. He, like the city landowner, is subject to an annual land tax. In certain cases residence upon the land is also necessary to the establishment of the title and this residence often involves a real cost. To meet these charges he has slight resources. The settler is proverbially "land-poor." He has faith in the future "capital increment." The money lender has less faith. The settler must somehow meet the charges and will cultivate the soil when the returns do not justify it — he will "skin" the soil, if need be — in order to meet them. He, too, sacrifices part of his future to save the remainder. Thus, if our buildings are constructed by speculators hoping to preserve increments for future appropriation, our farms are first carved out and cultivated by speculators spurred on by the same motive. The significance of this in connection with the struggles on the frontier for land banks, "cheap money," and internal improvements is obvious.

Professor Anderson's statement, then, that the "earning power of the land" is the "significant factor" and that the "capital increment" is "wholly irrelevant" assumes that the "capital increment" will accrue to the credit of the individual whether he improves his land or not. The second criticism resolves itself into a charge that this assumption ignores a very important practical consideration. There are expenses necessarily involved in holding land over a period of years which are often heavy and which, because of the discrimination which is commonly made against land as security for loans, are peculiarly difficult to meet. By improving the

land a revenue may be secured which will aid to keep clear the title to the "capital increment." Thus, where a building must be constructed because of the presence of practical circumstances connected with the loan market, the case is materially changed. The size of the "capital increment" then enters as a factor which must be compared with the expenses of preserving title to it. Any part will be sacrificed to retain the remainder. The entire destruction of the increment by a tax would, under these circumstances, cause a diminution in building. Any reduction in the size of the increment would probably throw some building projects over the margin.

It will be agreed, therefore, that a restatement of conclusions is necessary in order to take account of important practical factors in the situation. Is the increment a lure which has hastened the settlement of our prairies and the building of our cities? In the light of the foregoing discussion it appears that it is the attraction of the increment which leads to the efforts to establish claims to land. But does it explain why men farm and build, as they do, before they can secure a proper return on their investment? The answer must be that it is not the "capital increment" which is directly responsible. It is rather the necessity of preserving the title to that increment. The increment seems to be like the "greased pig" at the county fair — often easier to catch than to hold. It is to pay taxes and to keep body and soul together that the settler strips his land of its fertility and the builder allows his structure to depreciate without making proper immediate provision for replacement. In so far as the lure of the "capital" increment is responsible for these sacrifices, it should be given credit for encouraging early building and settlement. To destroy the increment will eliminate the necessity of making sacrifices in order to secure it. The effect undoubtedly will be that building and settlement will take place less soon.

The facts, then, are as the business man states but not exactly for the reason he states. Professor Anderson has pointed out that the reason given is not adequate, but he

offers, on his part, no explanation of the facts. It has been an error to ascribe building activity directly to the increment. It is not the increment which supplies the direct, compelling force. The real cause of early building is the pressure of charges of various sorts, the most important of which are annual taxes. Professor Anderson's article calls attention to this inaccuracy in a very conclusive fashion. But, nevertheless, were it not for the increment, operating in this indirect fashion as the reward which justifies the present sacrifice, the increased building would not take place. The conclusion must be that, under the conditions actually present in many places, the impairment of the "capital" increment by taxation would operate to discourage building operations.

Within limits¹ anything which increases the annual burden or increases the final reward of the man who is attempting to carry land in order to realize on the "capital" increment would, then, from this point of view, encourage building. A tax on the "yield increment" would, at the same time, increase the annual burden and *decrease* the final reward, for, presumably, the tax would continue after the land has changed hands and would result in the impairment of the "capital increment" for which the individual is striving. The effect upon building operations will depend, therefore, upon the relative strength of these opposing forces.

The statements made in regard to the effects of increment taxes have assumed that the increment is expected and counted upon. This suggests another distinction of possible usefulness. Increases in land values are always imperfectly discounted. If they were perfectly discounted, all would be paid for in the market price of land. Some are paid for in this fashion; some are not. Certainly the rate of increase and the rate of discount are independent of each other. Some increments are, then, expected, discounted and paid for; others are unexpected, undiscounted and unpaid for.² The distinction between "expected" and "unexpected"

¹ The annual burden could be made too high to be borne, of course.

² Moreover the mere fact that an individual expects an increment, does not, of course, "earn" the increment. The increment may be entirely "unearned" and yet be fully discounted.

increments is of some importance, because many individuals will not object to a plan which takes by taxation only that which has not been expected and paid for, but would object to another form of the increment tax. Obviously the only increment which is of any importance in influencing a decision to build is the increment which is expected and counted upon. A tax could take all this unexpected increment without affecting any decisions to build. If a line could be drawn between discounted and undiscounted increments, a tax could be imposed upon the undiscounted increments without the risk of unfavorable results upon building activity and without incurring the charge of confiscation. The wisdom of the provision of the English increment law, which provides for the exemption from the tax of a ten per cent increase, here becomes apparent. Perhaps such a provision comes as near as possible to a practicable distinction between "discounted" and "undiscounted" increments.

The degree of certainty and the possibility of unexpectedly large returns are the factors responsible for the relatively small return usually received from investments in land. Destroy the possibility of an increased return, through either "capital" or "income" increments, and the rate of return upon land must increase to a level at least as high as that upon other forms of investment.

The objection raised by Professor Anderson, that, because leased land competes with "owned" land in the same market as sites for buildings, the increment cannot be an incentive to building, seems to offer no great difficulties, theoretically. The owner of a piece of land which is rising in value and which is the occasion of expense difficult to meet may find it to his advantage to lease his land to a builder for any sum he can get. No matter how small the return, it will assist so much in aiding the individual to pay his taxes and preserve his title to his land and his future "capital" increment.

A discussion of the effects of other types of land taxes upon building operations cannot be included within the limits of this paper. The first step toward increased land taxation in most of the communities of the United States seems to be

to raise the assessment of vacant land to full value as compared with other real estate. What will be the effects upon building of this step and of the policy of exempting improvements, which is already being adopted, will depend upon a variety of conditions. In most cases, the writer believes, the changes will not be "barren of results," but will stimulate building to some degree.

In this paper, also, the observations "cover only a small part of the points in controversy." It is believed, however, that the main point is an important one. Certainly a debt of gratitude is due to Professor Anderson for demonstrating so conclusively the inadequacy of the currently accepted explanation of the influence of increments upon building and voluntary obsolescence. It is the explanation, however, which has been at fault. The influence is still present. But it is not exercised directly, as has been claimed, but indirectly and in a fashion not recognized. The increment is a reward whose attainment, under ordinary conditions, demands a sacrifice. The form which this sacrifice takes is in cities early building and voluntary obsolescence, and in rural districts early settlement and impoverishment of land.

ROBERT MURRAY HAIG.

COLUMBIA UNIVERSITY.

TWO RATE DECISIONS OF IMPORTANCE

Two rate decisions have recently been made, both noteworthy because of the importance of the questions at issue. One was rendered by the Massachusetts Public Service Commission, and considers the obligation of the state towards securities which it has approved; the other is by the New Jersey Court of Errors and Appeals, and deals with the problem of franchise values.

The Massachusetts decision considers whether and how far the approval of securities by a public utilities commission

means that a corporation will be allowed to charge a rate which will permit a fair return upon such securities. As yet there has been no authoritative judicial determination of this question. The United States Supreme Court in the Consolidated Gas case¹ refused to permit the rate for gas in New York City to be lowered beyond the point where a fair return would be assured upon all the capitalization which had previously been authorized (indirectly) by the state legislature. In 1884 the legislature had sanctioned the merger of manufacturing companies, authorizing the consolidated corporations to issue capitalization which should not exceed the value of "the property, franchises and rights" of the separate companies. Several gas companies of the city soon merged under this act, forming the Consolidated Gas Company, and capitalizing its franchises and rights at approximately \$8,000,000. The Supreme Court held in 1909, that since it did not appear that this was an over-valuation of the franchise in 1884 and since the capitalization of the franchises was under authority from the legislature, such capitalization should be included in the valuation of the property for rate-making purposes. The Court said: "We think that under the above facts the Court ought to accept the valuation of the franchises fixed and agreed upon under the act of 1884 as conclusive at that time. The valuation was provided for in the act, which was followed by the companies, and the agreement regarding it has always been recognized as valid, and the stock has been largely dealt in for more than twenty years past on the basis of the validity of the valuation and of the stock issued by the company."

Altho the point was not directly in issue, the logic of the Consolidated Gas decision would seem to lead to the establishment of the principle that authorization of stocks and bonds by a state establishes a capitalization upon which a return must be permitted by the state.

In spite of this decision, most of the states which have recently undertaken the control of capitalization are proceeding upon the theory that securities approved by them need

¹ *Wilcox v. Consolidated Gas Company*, 212 U. S., p. 19.

not necessarily be taken into consideration in making rates. Indeed, the new public utility laws in some of the states specifically provide that the approval of securities by the commission, or any other acts of the commission, are not to be taken as a guarantee on the state's part of stocks or bonds issued under the act. Such provisions are contained in the laws of Arizona, California, Pennsylvania, and Illinois. Further, practically all of the new state commissions authorize the issue of securities but proceed to base rates upon the reproductive or present value of the property, permitting only such a rate as will provide a fair return upon this value. That is, the value of the property, so defined, is used as the basis for rates, regardless of the outstanding capitalization or the securities approved. By the use of this method the commissions plainly indicate that holders of securities approved by them have no assurance that rates will be such as to give a fair return upon such securities.

The Massachusetts decision above referred to rejects the present value theory as a basis for rates, and takes a different attitude on the obligation of the state as to the securities which it has authorized. This decision was in the *Middlesex and Boston Rate Case*, decided October 28, 1914.¹ The *Middlesex and Boston Street Railway Company* had applied to the Public Service Commission for authority to increase its fares. The advance in rates was protested against by the towns through which the line passes. The Commission was compelled to face the question as to the basis upon which a fair return must be reckoned. Counsel for the patrons urged the view generally adopted by courts and commissions, that the present value of the property was the only amount upon which the company could claim a return.

In reply to this contention the Commission said: "Undoubtedly in rate cases and other cases involving the conflicting rights of the rate-paying public and the investing public, the cost of reproduction may frequently be a fact desirable to be ascertained, and sometimes it illuminates

¹ *Middlesex and Boston Rate Case*. Report and Order, Massachusetts Public Service Commission, 1914, 553.

important aspects of the problem presented; it is often the best method of checking up unsatisfactory accounting, particularly when dealing with depreciation. But as a fundamentally controlling principle, no theory could work out grosser injustice, — to the rate-paying public in some cases and to the investing public in other cases, — than the reproduction cost theory. In cases where rates have for years been too high, so that the companies have accumulated out of excess rates paid by the public large amounts which have gone for capital purposes, this theory requires the rate-payer to pay a rate adequate not only for a return upon the capital furnished by the investor or stockholder, but adequate also to furnishing capital and a return upon the capital furnished; it would authorize the capitalization of excessive rates and a return upon that capitalization. This is to put a premium upon extortion, past and prospective. On the other hand, this theory is grossly unjust to prospective investors in that even when the investment is made with entire honesty and with reasonable prudence, — yet if, pending the building up of the new business, the plant depreciates below the fair cost to the investors, rates must, under this theory be made adequate to make return only upon the reproduction cost of the property in its depreciated condition."

The Commission maintained further that the theory of reproductive value is as inexpedient as it is unjust, since it tends to hinder the investment of further capital in utility enterprises; that regulation, if it is to limit the returns to a rate not greatly in excess of an investment rate, must also protect all investments honestly and prudently made in the public service, if utilities are to be kept on good terms with the investing public. Therefore the Commission announced that the public would be best served, if regulation makes its "fundamentally guiding principle an attempt to protect investments honestly and prudently made and wisely managed." The Commission points to the fact that for many years the state of Massachusetts has followed the policy of regulating the issue of securities by public utilities, such securities representing only the bona fide investments in the

properties. It asserts that the theory underlying this practice was that such rates should be allowed as would yield a fair return upon such investments, and concludes: "Accordingly, we rule that under Massachusetts law capital honestly and prudently invested must, under normal conditions, be taken as the controlling factor in fixing the basis for computing fair and reasonable rates, . . . that reproduction cost, either with or without depreciation, while it may be considered, is not, under our law, to be taken as the determining basis for reckoning rates."

The Commission refers to the decisions of the United States Supreme Court which refuse to base rates upon securities, but points out that in such cases the securities had not been issued under public authority, and maintains that such decisions cannot be interpreted to imply that the capitalization laws of Massachusetts "and the necessary corollaries therefrom" are unconstitutional. It is to be borne in mind that the Supreme Court decisions rest solely on the construction of legal and constitutional provisions; whereas that of the Massachusetts Commission would seem to be based on broad grounds of public expediency.

It has long been understood that the Massachusetts commissions gave large regard to capitalization in the establishment of rates, altho it has generally been impossible to ascertain from the published decisions the actual basis for rates or the weight given to the various factors. But never before in the long history of Massachusetts in regulating utilities, had any of its commissions¹ specifically rejected the present value theory, and positively announced that it would protect investments by basing rates upon securities.

The establishment of this principle by the Massachusetts Public Service Commission is of far reaching importance. It means the displacement of the present value principle by

¹ Until 1913, the control of public utilities in Massachusetts was in the hands of three commissions, the Railroad Commission having supervision of railroads and street railways; the Gas and Electric Light Commission, of gas and electric utilities; the Highway Commission, of telephones and telegraphs. In 1913 the duties of the Highway Commission were given to the Railroad Commission, which became the Public Service Commission. The Gas and Electric Light Commission still has control over gas and electric utilities.

that of original cost as a basis for rate making. It means that utilities will be freed from the risk of a lessening in the value of their properties, due to changes in the price of labor, materials, and the like. On the other hand it means that utilities will not be enabled to profit by increases in the value of their property, as, for example, by appreciation in the value of their land. It means that investors purchasing their stocks or bonds will own securities having back of them an obligation or promise from the state; therefore that the element of risk in utility investments will be lessened and that presumably the necessary interest payments may be reduced. In view of the dissatisfaction expressed in many quarters with the reproductive value theory as a basis for rates it is fortunate that at least one commission expects to proceed upon another principle, making it easier in the future to judge which basis is the more expedient both for the corporations and for the public.

The second decision, that of the New Jersey Court of Errors and Appeals, is of importance because it marks the conclusion of a long series of litigation which aroused widespread interest throughout the entire state, and because of its reasoning upon the valuation of franchises for rate-making purposes. The New Jersey Public Utility Commission had held in 1912 that the franchises of the Public Service Gas Company should not be considered in the appraisal of the property which was to serve as a basis for rates, beyond an amount representing the cost of securing such franchises.¹ The case was appealed to the New Jersey Supreme Court, which upheld the Commission. Appeal was then taken to the Court of Errors and Appeals, which in December, 1914, reversed the opinion of the Commission and of the Supreme Court, holding that a substantial value must be given the franchises. A rehearing was granted, however, and in June, 1915, the Court of Appeals and Errors reversed its former decision, affirming the decision of the Supreme Court, that franchises are not to be valued.²

¹ Reports of Board of Public Utility Commissioners of New Jersey, vol. 1, p. 433.

² Public Service Gas Co. v. Board of Public Utility Commissioners. Published as pamphlet by the Board of Public Utility Commissioners.

The Court of Errors held that it is improper to include franchises when they are not exclusive and when the public retains the right to regulate rates. The argument frequently advanced, that franchises ought not to be included because they have been a gift to the utilities from the public, the Court held to be of little force, except in so far as the value of such gifts may be lessened or destroyed by the exercise of the public's power to regulate rates or to make similar grants to other parties. Said the decision of the Supreme Court, now affirmed by the Court of Errors and Appeals: "We do not attribute much force to the argument that the special franchises were a gift from the State. . . . The value of property does not depend upon the mode in which title is acquired. . . . There is, however, a sense in which the fact that franchises are the subject of gift may be important. The value of a gift to an existing company may be destroyed by a similar gift to a new corporation or other individuals; and it is obvious that in order to determine the wisdom of investing in the enterprise, the newcomers would be under no necessity of *seeking* a return upon a franchise for which they were to pay nothing. Since it is in the power of the State to bring about a supply without compelling the public to pay on the franchise valuation, beyond the actual cost of procuring it, it would be likely to do so, and the effect would be to destroy the value of the special franchise of the existing company. These considerations lead us to the conclusion that logically no allowance should be made for the value of the special franchise in a case where it is not legally exclusive and where the State still retains the right to fix rates." This reasoning would seem to be conclusive.

Recently the claim that franchises should be included in rate-making valuations, in so far as they are taxed as property, has been advanced with persistence. Under this theory, franchise values allowed would not depend directly upon earnings, but upon the appraisal of the franchises by the taxing authorities. The Court of Errors and Appeals, in its earlier decision, defended this position. The Maryland Commission has recently acted upon the same theory and in

its appraisal of the property of the Consolidated Gas, Electric Light and Power Company of Baltimore, allowed \$5,000,000 for this purpose.¹ But the New Jersey Court, in its final decision, wisely refrained from giving acceptance to this theory. The Court refuses to believe that franchises must be valued for rate making merely because they are valued for taxation purposes, and points out the peculiar nature of franchises as property. It says, "That they (franchises) are property is well settled. . . . Our own laws recognize them as property and tax them accordingly. . . . Such franchises, however, are property of a peculiar kind; the right of property in them is not absolute, but is qualified by the right of the State to fix reasonable rates. . . . That a special franchise in the absence of an exclusive right is property only in a qualified sense is the result of the right of the State not only to regulate rates, but also to authorize a municipality to supply itself, and thereby to destroy the value of the special franchises." Accordingly the Court refused to include the franchises in the valuation for rate making, in spite of the fact that they are treated as property by the taxing authorities.

This position is fundamentally sound. The argument that it is unjust to deny to a corporation a valuation upon its franchise for rate making, because the franchise is taxed, is sophistical. The levying of a franchise tax ordinarily does not lessen the returns of a company, nor prove a burden to it, since the taxes are included in computing the operating and general expenses of the company, above which it is entitled to a fair return. Assuming that a utility is held by the courts or commissions to be entitled to a certain rate of return, and to this return only, the laying of a tax upon its franchise increases the amount which the public must pay to the company in order that it may make this return. If the utility can sell its service at a price which will produce its former rate of return plus the franchise tax it must be permitted to do so. The general result of franchise taxes, under such conditions, will be either to increase rates or to prevent them from going

¹ Report of the Public Service Commission of Maryland, 1913, p. 52.

down as rapidly as they otherwise might. In either case, the tax falls upon the public. Hence the cry of injustice against not permitting a return upon the value which is taxed is not well founded, for the franchise taxes would ordinarily be charged against the consumers.¹ It is to be hoped that other judicial bodies and commissions will concur in the position of the New Jersey Court upon this issue.

R. E. HEILMAN.

THE TOBACCO INDUSTRY SINCE THE DISSOLUTION OF THE TRUST

THE report recently issued by the Commissioner of Corporations (Part III of the Report upon the Tobacco Industry), treating Prices, Costs, and Profits, is the first to deal with a post-dissolution period and to compare conditions before and after the execution of the court decree. Disappointment will be met, however, if one reads the report with an expectation of learning anything conclusive about the effectiveness of the dissolution of 1911. In the letter of transmittal, the Commissioner indicates clearly the limitations of the inquiry.² "The actual extent of the competition between the successor companies is discussed in so far as the facts regarding prices, costs, and profits, and changes in the volume and division of business tend to show it, but not with regard to the other important factors. These other factors are not covered by the report because the court retained jurisdiction in the case, and the Department of Justice has undertaken an investigation as to the manner in which the decree has been observed." It is to be regretted that the task of investigating these matters was not turned over to the Bureau of Corporations. In consequence of the lack of coöperation between the

¹ This reasoning, of course, does not apply to franchises which establish a definite charge to consumers, but only to those under which charges are subject to regulation by the public.

² Page xxvii.

two Departments, the present report is in certain particulars very unsatisfactory.

As the title indicates, the present report takes up the investigation of costs, prices, and profits: (1) those of the combination up to and including 1910; (2) those of the several large companies, called the successor companies, which took over the business of the combination; and (3) those of a group of independent concerns. Upon the basis of the material gathered and disregarding other factors, the report asserts that competition has been restored.

Two chief reasons are assigned for this conclusion. First, it is maintained that the changes in the relative volume of business of the several successor companies indicate competition. In the two years following dissolution, there was clearly a tendency for these concerns to fill gaps in types of business in which they were weak. But to hold that the more even distribution of business in the post-dissolution period is indicative of competition is to assume that each company has striven successfully to build up those parts of its business in which it was weak. But might not competition between several concerns, each strong in some branches and weak in others, lead to further specialization of each company in the branches in which it excelled, and withdrawal, perhaps forced, from the branches in which it was inefficient? Is it not conceivable that some of the changes in the division of business might be parts of a plan to allow each company to increase its business in the lines in which it was weak to such a volume as would make efficient production possible under the new conditions imposed by the courts?

The second argument presented in the report for the opinion that competition has been restored, concerns the increase in costs of distribution since the dissolution of the combination. It is to be expected that retail prices would show no change. In a commodity which is marketed commonly in small packages, at "popular" prices, the inertia of the public renders a change in retail prices difficult. It is much more convenient to change the size of the package. One might suppose, on the other hand, that wholesale prices

would reflect the alleged increased competition. The report asserts, however, that neither wholesale nor retail prices have changed since dissolution. The great bulk of the tobacco sold in this country is marketed under proprietary brands the demand for which is created or at least stimulated by extensive advertising. The consumer demands a particular brand, and the retailer and jobber have to keep it in stock. In such a case, the necessity for lowering the wholesale price to meet increased competition is small. Instead, the tobacco manufacturer is likely to increase his advertising. When tobacco manufacturers were combined, the tendency was to cut down the expenses of distribution and to limit advertising expense to an amount sufficient for the maintenance and normal increase of sales. After dissolution, expenses of distribution such as advertising, duplication of salesmen, and overhead expenses, show marked increases. This may be significant of restored competition. To the public at large, such increases constitute a most patent sign of increased rivalry. Yet one might be tempted to ask, in the absence of other information, whether or not this movement of costs was the result of an attempt to carry out on a larger scale the same sort of practice which the trust indulged in at an earlier time, namely, that of operating bogus independent companies selling goods "not made by the trust."

It is frankly admitted that there is no more competition today in the snuff business than before dissolution. The decree, owing to peculiar conditions in the snuff business, brought about a division of territory, nothing more.

After asserting that the smallest of the successor companies is very much larger than the largest of the independents, the report proceeds to show that the selling and manufacturing costs of the latter are extremely high as compared with the former. Further, it is stated that the proportions of control by the successor companies of the total output in 1913 as compared with those of the combination in 1910 show that the combined proportion of the successor companies was slightly less in smoking and fine-cut tobaccos, more in cigar-

ettes and snuff, and about the same in plug tobacco and little cigars. In view of all the facts adduced, one hesitates to accept without further proof the conclusion that competition has been restored.

Tho the report fails to prove conclusively the existence of competition since 1911, it does present interesting data upon several other points, especially upon the incidence and shifting of the tobacco excise, and upon the effect of the growers' organizations upon the price of leaf tobacco. The statistics compiled show that the costs of the combination were lowest, and profits highest, during the period 1903 to 1908, following the reduction of the tax and preceding the rise in leaf prices beginning in 1908. The comparison of costs of the combination with those of the independent companies seems to demonstrate the efficiency of large scale production; while the comparison of costs of the successor companies with those of the combination may be construed as an evidence of the superiority of combination over large scale production.

H. R. TOSDAL.

HARVARD UNIVERSITY.

BOOKS RECEIVED

- American Sociological Society. Papers and Proceedings. Chicago: University of Chicago Press. 1915. pp. 202. \$1.50.
- Argentina, Ministerio de Agricultura. Comercio Internacional Argentino. Algunas Cifras Sobre su Progreso. Buenos Aires: Ministerio de Agricultura. 1915. pp. 64.
- Ashworth, J. H. The Helper and American Trade Unions. Baltimore: Johns Hopkins Press. 1915. pp. 134. (In Johns Hopkins University Studies.)
- Austria, Finanzministerium. Mitteilungen des K. K. Finanzministeriums, Zweites Heft. Vienna: Hof- und Staatsdruckerei. 1915. pp. 995. 12k. (Statistics on banking, direct taxation, excises, tobacco monopoly.)
- . Statistische Mitteilungen über das österreichische Salsmonopol im Jahre 1912. Vienna: Hof- und Staatsdruckerei. 1915. pp. 381.
- Barker, Ernest. Political Thought in England from Herbert Spencer to the Present Day. New York: Henry Holt & Co. 1915. pp. 251. \$.50.
- Becker, C. L. Beginnings of the American People. Boston: Houghton Mifflin & Co. 1915. pp. 279. \$1.25. (In Riverside History of the United States.)
- Blascoer, Frances. Colored School Children in New York. New York: Public Education Association of New York. 1915. pp. 176.
- Bowley, A. L., and Burnett-Hurst, A. R. Livelihood and Poverty: A Study in the Economic Conditions of Working-Class Households in Northampton, Warrington, Stanley and Reading. London: G. Bell & Sons. 1915. pp. 222. \$1.40.
- Briggs, John E. History of Social Legislation in Iowa. Iowa City: State Historical Society of Iowa. 1915. pp. 444. \$2.00. (Iowa Social History Series.)
- Cahall, R. DuB. The Sovereign Council of New France: A Study in Canadian Constitutional History. New York: Longmans, Green & Co. 1915. pp. 274. \$2.25. (Columbia University Studies.)
- Cannon, W. B. Bodily Changes in Pain, Hunger, Fear and Rage. New York: D. Appleton & Co. 1915. pp. 311. \$2.00.
- D'Estournelles de Constant, P. H. B. America and Her Problems. New York: Macmillan. 1915. pp. 545. \$2.00.
- Devine, Edward T. The Normal Life. New York: Survey Associates. 1915. pp. 233. \$1.00.
- Disconto-Gesellschaft. Economic Life in Germany during the War. With Appendix: Economic Laws and Ordinances. Berlin: Disconto-Gesellschaft. 1915. pp. 109. (Comprising the first six months of the war.)
- Dodd, William E. Expansion and Conflict. Boston: Houghton Mifflin Co. 1915. pp. 329. \$1.25. (In Riverside History of the United States.)
- Eliot, C. W. The Road Toward Peace. Boston: Houghton, Mifflin Co. 1915. pp. 228. \$1.00.

- Flippin, P. S. *The Financial Administration of the Colony of Virginia*. Baltimore: Johns Hopkins Press. 1915. pp. 95. (Johns Hopkins Studies.)
- Gillin, John L. *History of Poor Relief Legislation in Iowa*. Iowa City: State Historical Society of Iowa. 1915. pp. 404. \$2.00. (Iowa Social History Series.)
- Hunter, Robert. *Labor in Politics*. Chicago: Socialist Party. 1915. pp. 202. \$.25.
- Jevons, H. S. *Economics in India*. Allahabad: University of Allahabad. 1915. pp. 35. 8 annas. (Inaugural Lecture.)
- Jèsè, G., Barthelémy, J., Rist, C., and Rolland, L. *Problèmes de politique et finance de guerre*. Paris: Félix Alcan. 1915. pp. 227. 3 fr. 50.
- Johnson, Allen. *Union and Democracy*. New York: Houghton, Mifflin Co. 1915. pp. 346. \$1.25. (In *Riverside History of the United States*.)
- Keller, A. G. *Societal Evolution: A Study of the Evolutionary Basis of the Science of Society*. New York: Macmillan. 1915. pp. 338. \$1.50.
- Kellogg, Paul U. (Editor). *The Pittsburgh District: Civic Frontage*. New York: Survey Associates. 1915. pp. 554. \$2.50. (In *The Pittsburgh Survey*.)
- . *Wage-Earning Pittsburgh*. New York: Survey Associates. 1915. pp. 582. \$2.50. (In *The Pittsburgh Survey*.)
- Kirkaldy, A. W. *British Shipping: Its History, Organisation and Importance*. New York: E. P. Dutton & Co. 1915. pp. 655. \$2.00.
- Klein, J. J. *Student's Handbook of Accounting Based on Elements of Accounting*. New York: D. Appleton & Co. 1915. pp. 136. \$1.50.
- Lauré, M. J. *The Property Concepts of the Early Hebrews*. Iowa City: University of Iowa. 1915. pp. 98. (University of Iowa Studies.)
- Millia, H. A. *The Japanese Problem in the United States*. New York: Macmillan. 1915. pp. 334. \$1.50.
- Morman, James B. *The Principles of Rural Credits*. New York: Macmillan. 1915. pp. 296. \$1.25. (Rural Science Series.)
- Nearing, Scott. *Income: An Examination of the Returns for Services Rendered and from Property Owned in the United States*. New York: Macmillan. 1915. pp. 238. \$1.25.
- New York Department of Labor. *Industrial Directory of New York*. Albany: Department of Labor. 1915. pp. 787.
- . *New York Court Decisions Concerning Labor Laws from October, 1913 to January, 1915*. Albany: J. B. Lyon Co. 1915. pp. 118. (Issued under the direction of the Industrial Commission.)
- Noble, H. G. S. *The New York Stock Exchange in the Crisis of 1914*. New York: Country Life Press. 1915. pp. 89.
- North, C. C. *The Sociological Implications of Ricardo's Economics*. Chicago: University of Chicago Press. 1915. pp. 65.
- Paxon, Frederic L. *The New Nation*. Boston: Houghton, Mifflin Co. 1915. pp. 342. \$1.25. (In *Riverside History of the United States*.)
- Prato, G. *L'espansione commerciale inglese nel primo settecento in una relazione di un inviato Sabauda*. Torino: Opes. 1915. pp. 30.
- . *L'Evoluzione agricola nel secolo XVIII e le cause economiche dei moti del 1792-98 in Piemonte*. Torino: Reale Accademia delle Scienze. 1915. pp. 106.

- Prato, G. Il problema del combustibile nel periodo pre-rivoluzionario come fattore della distribuzione topografica delle Industrie. Torino: Reale Accademia delle Scienze. 1915. pp. 115. (Memoria di Giuseppe Prato.)
- . Un capitolo della vita di Giovanni Law (da documenti inediti). Torino: Reale Accademia delle Scienze. 1915. pp. 31. (Memoria di Giuseppe Prato.)
- . La teoria e la pratica della carta-moneta prima degli assegnati Rivoluzionari. Torino: Reale Accademia delle Scienze. 1915. pp. 42.
- Redfield, Casper L. Great Men and How They are Produced. Chicago: Privately published. 1915. pp. 32.
- Roman, F. W. The Industrial and Commercial Schools of the United States and Germany. New York: G. P. Putnam's Sons. 1915. pp. 382. \$1.50.
- Russell, E. B. The Review of American Colonial Legislation by the King in Council. New York: Longmans Green & Co. 1915. pp. 227. \$1.75. (Columbia University Studies.)
- Shambaugh, B. F. (Editor). Applied History, Vol. II. Iowa City: State Historical Society of Iowa. 1915. pp. 688. \$3.00. (Iowa Applied History Series.)
- Slater, Gilbert. The Making of Modern England. Boston: Houghton, Mifflin Co. 1915. pp. 308. \$2.00. (New Revised Edition.)
- Thompson, Charles Manfred. The Illinois Whigs before 1846. Urbana: University of Illinois. 1915. pp. 165. (University of Illinois Studies.)
- Thompson, C. Mildred. Reconstruction in Georgia: Economic, Social, Political, 1865-1872. New York: Longmans, Green & Co. 1915. pp. 418. \$3.00. (Columbia University Studies.)
- Thompson, W. S. Population: A Study in Malthusianism. New York: Longmans Green & Co. 1915. pp. 216. \$1.75. (Columbia University Studies.)
- Toulmin, Harry A., Jr. The City Manager. New York: D. Appleton & Co. 1915. pp. 310. \$1.50.
- United States, Bureau of Corporations. Conditions in the Healdton Oil Field. Washington: Government Printing Office. 1915. pp. 116.
- . Report on the Tobacco Industry. Part III: Prices Costs, and Profits. Washington: Government Printing Office. 1915. pp. 472. (On the course of events since the dissolution of the Tobacco Combination.)
- Veblen, T. B. Imperial Germany and the Industrial Revolution. New York: Macmillan. 1915. pp. 324. \$1.50.
- Watarai, Toshiharu. Nationalisation of Railways in Japan. New York: Longmans, Green & Co. 1915. pp. 156. \$1.25. (Columbia University Studies.)
- Weld, L. D. H. Studies in the Marketing of Farm Products. Minneapolis: University of Minnesota. 1915. pp. 113.
- Westerfield, R. B. Middlemen in English Business, particularly between 1660 and 1760. New Haven: Yale University Press. 1915. pp. 334. \$3.40. (Transactions of the Connecticut Academy of Arts and Sciences.)
- Woodson, C. G. The Education of the Negro Prior to 1861. New York: G. P. Putnam's Sons. 1915. pp. 454. \$2.00.
- Young, J. T. The New American Government and Its Work. New York: Macmillan. 1915. pp. 663. \$2.25.

**J. HUGH JACKSON
LIBRARY**

Graduate School of Business

STANFORD UNIVERSITY

